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ADDRESS.

CHAIRMAN'S ADDRESS.

Read in the Section on Dental and Oral Surgery, at the Forty-fourth Annual Meeting of the American Medical Association.

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The Chairman of this Section is supposed each year to write a paper upon notable events of interest occurring in the bounds of our specialty during the past year.

While in a general way there has been a move forward during the year, there has been little in the progress that can be specially mentioned, and the writer must satisfy you as far as possible by bringing before you, to elaborate by discussion, a few thoughts and opinions only.

We can not help having noticed that since the last meeting of our ASSOCIATION at Detroit last year, the subject of the so-called "Code of Ethics" has been very largely discussed in our ASSOCIATION JOURNAL. This Code is a matter that does not interest us as specialists as much perhaps as it does the general practitioner. But the writer can not let this opportunity pass without suggesting that, in his opinion, the nearer we get to the ideal professional man, in the broad meaning of the term, the less we will *need* a code to govern our actions.

So the only real use of a code is for those who are not disposed to do just the right thing, and for those so disposed it can be said that no code can possibly be framed that he can not render inert in spirit while observing the letter, and in the opinion of the writer in the vast majority of cases, those who are the most strenuous about the strict observation of the letter of the Code, are usually the ones who apparently, persistently and intentionally violate the spirit of it.

It seems to me that the query must arise in all fair minded people, Is not the spirit of the Code, *the code*, rather than the mere letter thereof.

We think in this matter of recognition, that homeopathy and other "pathies" owe more of their standing to-day to the persecution and persistent attacks of our brethren, than to any other one thing. There is nothing that will give the professional person in any profession, position and employment quicker with the laity, than the persistent and bitter personal attacks of those who should be brethren. And we also think if matters were properly understood, there would be found less of difference between the practices of the so-called schools, than we imagine.

As intelligent practitioners we should realize that the interests of those placed under our professional care, imperatively demand that we look primarily and only to the possibilities of good to *them*, with very little, if any, special consideration as to "pathy" or creed, previous or present belief of the consultant; for a reputation that has to be builded upon the ruins of another's, would be far better unbuilded.

The demand for a more thorough education in all departments of medicine, stimulates us to action to keep abreast of the times, and we must exercise great wisdom and judgment to always know what new ideas are worthy of fostering and adoption, and what are unworthy of our serious attention. A great danger at present in all walks of life, is to fadism, and with us there is danger that in our enthusiastic adoption of some new theory, we do *not* make use of, or realize, the sterling worth of the old, approved and established ideas. We are reminded of this in the now all absorbing fad of laying the guilt of every ill to microörganisms, and perhaps in using agents destructive of these, when instead we should use the greatest of all healing and healthful agents, alone, and that is cleanliness.

We are further reminded of this in our specialty, when we say there is great danger that in formulating and exemplifying theories of the causes of decay, and germ destroying methods, we may forget that *whatever* the cause of decay, when it is present in the tooth, it should be removed, so that at least in the external walls there be nothing left save that which is healthy, and then by proper adaptation, our work will be as secure from failure as is possible. We do not mean that broad and thorough work and research should be discouraged, but instead, heartily recommended; but what should be discouraged and condemned is the so-called research, which is rather intended to fortify or prove some preconceived idea. The greatest danger in our special field is to narrowness and the lack of patient and earnest search after wisdom in the broader fields. The broader we become as students, the less need will there be of any hampering or stiff boundary lines of rules of ethics, and the more surely the golden rule of "doing as we would be done by" will prevail, and that spontaneously. When we realize how broad the world of wisdom is, we will cease to even imagine great learning in ourselves. We think the attention of the general practitioner should with great emphasis be directed to the necessity of preserving the temporary teeth, especially the temporary molars, for they are not usually replaced by the permanent until the tenth to the twelfth year. The importance of this will be realized, when attention is called to the fact that the child needs well masticated nutriment much more than does the adult, for their system needs not only material to supply the waste, but also for the rapid growth and development of the whole physical organization. *Again*, if these teeth are neglected, they soon become sensitive, and then the child will not properly masticate the food, but forms the habit of bolting his food, thus introducing the whole train of dyspeptic troubles. *Again*, children's teeth, whether sound or decayed, should only be extracted

when the new or permanent tooth to take its place is ready to come in; then only the *one tooth* should be extracted, for in the writer's opinion, one of the most fruitful causes for irregularity in the permanent teeth, is the extraction of more than the one temporary tooth to allow the larger permanent tooth room to come in, forgetting that while coming in apparently with much irregularity oftentimes, they will as a rule regulate themselves by expanding the jaw, before the age of twelve or fourteen years, and this expansion of the jaw is a necessity to the physiologic development of the normal face. And that, recognizing the fact of the natural tendency of the teeth to move forward, or toward the mesial line, the natural sequence of the extraction of a temporary tooth, before the time for the eruption of the corresponding permanent tooth, will be the partial or complete closure of the space, so the permanent tooth when it comes in will have such a restricted space that an irregularity must result.

Another thing is the failure of the general practitioner in not recognizing that, in the great majority of cases, an abscessed tooth may, by proper treatment, be made so that it will give satisfactory service for many years, being almost universally amenable to treatment and filling. So that the field for the judicious extraction of the teeth has been narrowed to a very meager number. And in this connection, the writer expresses the opinion that the persistent, often repeated and long continued treatment of these pulpless teeth is most often needless, and entailing unnecessary expense and trouble to the patient; and that the end may be attained usually in one sitting, *provided*, that the roots can be and are cleaned out and made perfectly dry, and a non-irritable and complete filling placed therein. And if any irritation follows, this can be better treated from without than through the small and often tortuous root canals. In fact, it is extremely rare that with careful and thorough work, the pericemental irritation, if present at all, will be more than so very slight as to be scarcely noticed.

This year is made prominent in our specialty by not only the regular Association meetings, but in addition the Pan-American Congress in Washington, in September, with a Dental Section which, from all we can learn, promises to be a valuable meeting; and, in addition, the meeting of the Columbian Dental Congress, which convenes in Chicago in August, which in its conception was to be a broad, cosmopolitan meeting, but under the management seems, by what we can learn and by the official list of officers elect and appointive, to have come down to the cheapest political methods of distributing the official honors among the committee of fifteen and their immediate friends. All it needs is a careful examination of the published list of officers to see that the *principal* officers have been named from their own number, and in some cases distributing to themselves several of the most prominent positions. The writer believes that there are men in this country who would have been a credit to the positions so distributed, had they been named, and to have made the appointments outside of their own number would have freed them from the suspicion of intriguing themselves into the most prominent places. It makes one humiliated to see men of eminence, when appointed to positions of prominence, arrogate to themselves positions as they have done, for it is an excellent unwritten law that positions should seek the man, and not the man the position. In the writer's opinion, the action of the committee in the whole management so far, has been such as to work great injury to our professional standing, and will work more harm to the so-called Congress than they realize, even though in point of numbers the meeting is a success. This is not written to be personal, for we are sure some of the committee were not actuated by such a spirit, but all committees are blamed for the action of the majority. Such things are of great harm to the general good feeling and esprit de corps of the profession at large.

In closing these brief remarks, I can not forbear to notice the absence of one who has very seldom, if ever, been absent from our meetings since this Section was organized, and in fact who was very instrumental, with Dr. Talbot and others, in forming it; one of the greatest minds, if not the greatest, in our specialty. We note his absence with sorrow. I refer to our friend, Dr. Walter Webb Allport, who March 21, 1893, passed from earth. His memory will long survive as an inspiration to the younger members of the profession, and in the annals of our work, even in the future, few names will shine with the luster of his — always standing for that which was ennobling, elevating and broadening; that which he conceived was for the best interests of the work he loved and served so well.

I would suggest that this Section take such action in his memory as they may deem wise.

Thanking you for your kindness, I leave the proceedings of this Section in your hands.

ORIGINAL ARTICLES.

DISEASES OF THE MAXILLARY BONES AND THEIR PERIOSTEUM.

Read in the Section on Dental and Oral Surgery, at the Forty-fourth Annual Meeting of the American Medical Association.

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IN CHARGE OF THE MICROSCOPIC LABORATORIES AND CURATOR OF THE MUSEUM, NORTHWESTERN UNIVERSITY WOMAN'S MEDICAL SCHOOL; LATE PROFESSOR OF HISTOLOGY, BACTERIOLOGY, ETC., AMERICAN COLLEGE OF DENTAL SURGERY.

Under this heading we will notice some points of interest connected with dental surgery and pathology, although the cause and history of these diseases are so numerous that it will be almost impossible to do more than briefly allude to some of the most common forms met with by dental surgeons, every one of whom ought to have such a knowledge of the affections of the oral cavity that they might, with some degree of certainty, determine what the causes are, their pathology, diagnosis, and their treatment. Especially should we know the morbid growths which can occur, whether benign or malignant, so that we may early diagnose the case, and if we do not care to take such cases for treatment, to warn our patient to consult a surgeon.

Unhappily, the question as to whether dentistry is a specialty of medicine still exists. Even such a man as Prof. Norman W. Kingsley says in the *Medical Record*, Nov. 20, 1886: "Oral surgery, even in its most comprehensive sense, is not dentistry, any more than dentistry in its most comprehensive sense is not oral surgery." But whether it is or not, every one is well aware that one department can not do

without the other, and the more we can learn of all the sciences the better professional men and women shall we become. The position of dentistry as a specialty of general surgery is justified to a greater degree than in the case of any other specialty. "Surgery," as defined by one of our surgeons, "is that branch of the healing art which takes charge of all those diseases and injuries which require in their treatment the use of instruments and mechanical appliances, operations or especial manual dexterity." To no other specialty does this definition so aptly apply as to our own, and with reference to general surgery as a specialty of medical science, we know that a specialty should be the outgrowth of a liberal professional education—in short, that a specialist should be a man who "knows something of everything and everything of something."

The standard of a profession is raised or lowered by the character and work of its representatives. It rests entirely with them whether they will assert and maintain their claims to their true position, or allow the public to estimate them as it pleases. Better times, however, are coming, better men coming to the front, better thinkers and workers are banding themselves together, resolved to show that dentistry is not beneath, even if it is not above, the medical profession, but that it is a large and distinct branch of medical science, requiring not only the same studies but its own special ones as well, and must be recognized and honored as such.

Medical men know too little dentistry, and the dentist too little of general medicine, to be able to examine thoroughly these diseases of the jaws and to treat them as is necessary, seeing that they depend for cure on the attention given by both professions. We, of all people, should know thoroughly the healthy normal appearance of the oral activity, all it contains, and should therefore be immediately able to detect any pathologic condition. Cultivate thoroughness as early as possible; make a methodical examination, beginning at one tooth, say the left superior third molar, and continue around the arch, and then do the same with the inferior maxilla. Note the condition of the mucous membrane, which shows much of the condition of the roots of the teeth; the tongue, which indicates the state of the alimentary canal; the secretions of the mouth, which aid us in telling the nature of the calcific deposits upon the teeth, and whether the sensitiveness is due to acidity; and then note the color of the lips, and finally the general condition of the patients themselves. If any abnormality be present, examine for the cause with every care, then decide on the treatment and remedy, noting at the same time the idiosyncrasy of the patient. Many of these affections we, as dentists, are called upon to treat, and others, after they are diagnosed, we should hand over to the care of the physician. With these cases, whether simple or serious, we should be well acquainted, as we are more likely to see them in their early stages, and by immediate interference we may warn our patient and thus induce him to obtain medical or surgical attention, and thereby save him from long and serious, yes, and often fatal illness.

We are all aware of the difficulty in diagnosing oral tumors. For example, in epithelioma it is far better to urge early surgical interference than to wait until extension by the lymphatics places the patient beyond help. Hence make an early diagnosis; examine every sore, ulcer and spot in the mouth, using every precaution in antisepsis for the benefit of the patient and yourself.

For the reason that the diseases of the jaws are not often discussed, I have ventured to write a few notes on them, to try to show that they bear the same relation to dentistry as do the diseases of the gums. It is a matter of some difficulty to decide how to classify the subject. Perhaps the easiest way will be to discuss first the periosteum and its diseases, and then the close relation it bears to the bone itself will explain how the latter becomes affected.

The alveolo-dental membrane intervenes between the tooth and the bony socket or alveolus. It was formerly supposed to consist of two layers, but the idea has been abandoned since it has been demonstrated that fibers could be traced continuously from the bone to the cementum. The membrane, periosteum or ligament, as it is variously called, consists of connective tissue, between the bundles of which run groups of vessels and nerves, but it contains only a few yellow elastic fibers, and therefore can not be stretched much. It is, however, necessary that the tooth should be capable of some degree of movement in its alveolus, for every temporary inflammation by increasing, for the time being, the blood supply of the part, causes the partial extrusion of the tooth which is so well known to patients as being "longer than the rest." How, then, if we have so few elastic fibers, is movement of the tooth, without tearing the unyielding membrane, rendered possible unless it be by a special disposition of the fibers? The bony attachment of each band of fibers is nearer the neck than the cemental portion of the tooth, and may be looked upon as suspending the tooth in the alveolus by fasciculi of the periosteum, rather than as resting upon the membrane, and therefore some play is allowed, as the tooth can be raised or lowered until the cemental fibers are visible or lost to view beneath the gum. The fibers are continuous, but there is a slight difference between the portion nearest the bone and that nearest the cementum. At the former place the fibers are larger, while at the latter they become a fine net-work and more cellular. Again, age affects the tissue, for specimens show it to be thinner, especially the cemental portion, but it is not entirely obliterated. The periostea! blood supply is very complex, being derived from the pulp-artery[1] branching off just before it enters the foramen, and the terminal filaments anastomosing with the arteries that supply the gums. Just at the rim of the alveolus there is a rich plexus formed by union with the arteries of the periosteum and gums, the "gingival plexus," and near the cement there is a capillary plexus. "The blood vessels are most numerous, midway between the bone and cementum, or rather nearer the latter." (Tomes.) Thus we may conclude that the teeth have three sources of nourishment, viz.: through the pulp, and through the peridental membrane in its two sources.

The exact nature of the membrane is still far from satisfactorily explained. Malassez (*Journal British Dental Association*, 1885, p. 484) says it is a ligament for these reasons: *a*, if true periosteum existed in such a situation, mastication would be a very painful process, owing to the abundance of nerves; *b*, microscopically the tissue is more ligamentous than periosteal in structure; *c*, mastication produces traction,

[1] "The Blood Supply of Teeth," Dr. Hunt, in Dental Review.

not pressure; *d*, the attachment to the bone and cementum is precisely like a tendinous insertion; *e*, the distribution of the vessels and nerves in the interstices between bundles of fibers suggests ligament and not periosteum. Ranvier and Kölliker take a similar stand regarding its structure. And yet we know it is true that the membrane is directly continuous with the periosteum covering the rest of the maxilla; that the shock of mastication can be borne on periosteum, as, for instance, in edentulous ridges of the jaw-bone; and again it is certainly not quite a typical ligament, but a typical periosteum, with a specially modified function.

The alveolar walls develop at the same time as the root. Proceeding from the base of the follicle is a line of cells, the formative point of cementum, and another line, the formative organ of the alveolar walls; one develops down to form the socket, the other forms the cementum, the two layers being continuous. Whether the membrane is single or double is a question. Analogy from anatomy, etc., would make us think the true membrane would be in two layers. Demonstration proves it, for on extraction, the root of a tooth is covered by a membrane and the alveolus is lined with a membrane. The alveolar lining is from the bone, and so it must be referred to the osseous system. The formative organ of the cement, can it be the same as that which forms the alveolar walls? Some say it can not, and yet the cementum is like true bone except for the perfection of the Haversian canal, and the lacunæ are irregular in shape, size and distribution. The canaliculi are more numerous from the periosteal side of the lacunæ, fewer run inward toward the dentinal surface, and they contain the remains of the formative "osteoblasts" as we find in bone. The cementum contains "fibers of Sharpey," developed from the formative periosteum, which are calcified bundles of fibrous tissue like those in bone, and therefore why can we not call the cementum a modified bone? Tomes says the cemental organ and that which forms the alveolar walls are not the same; they are closely united but distinct and separable, the external formed from connective tissue with blood vessels, the inner a layer of cells. Dr. Ingersoll says he saw some of Dr. Black's specimens, and one of them was perfect in showing the histologic difference of the two layers. None of the straight lines of the peridental membrane were found in the alveolar membrane. If the membrane is double, two sources of vascular and mineral supply would be expected, from the pulp and from the sub-mucous tissues. Pathology aids us by revealing the difference in exostosis and hypercementosis. Irritation follows the blood vessels, and under the influence of irritants the root may take on an abnormal action; this is one form of exostosis, which latter term should be properly named either ex- or hypercementosis. If the nerves and blood-vessels follow the course of the membrane and it is not double, why are not both layers affected? Why do we not have both true exostosis or enlargement of the socket and also hypercementosis or enlargement of the roots, consequently tooth-ankylosis? When two roots are exostosed they grow together by impingement, but never the alveolus and root, hence there is no osseous union. Yet again, how often do we find periodontitis go on to periostitis, one being usually primary to the other? Would this not imply they were connected, if inflammation can so readily pass on from one to another? The conclusions I have arrived at by reading and specimens are:

1. The periosteum and the peridental membrane are identical. I prefer the term, periosteum.

2. It is divided into two layers, internal and external or osteo-genetic and fibrous; the internal, or osteo-genetic, forms the alveolar layer and the external, or fibrous, forms the cemental layer.

3. The alveolar and cemental membranes are not identical.

4. The two layers have different functions; one forming and lining the alveolus, the other surrounding, and holding the root.

5. The cement appears to be developed from the periosteum, and not from the dentine or odontoblast cells, as under the microscope it has the same appearance as bone, except that the lacunæ and canaliculi are not so perfectly developed.

When cementum is required to be very thick, as in herbivorous animals, where it is destined to cover the whole tooth, Magitot says, it first becomes the seat of a formation of hyaline cartilage, which ossifies like any other bone developed after the intra-cartilaginous method. Where it is to be thin and only cover the crown, as Nasmyth's membrane, it is the seat of ordinary intra-membranous ossification.

6. Pathology shows the same fact; there is no union between the root and the alveolus.

7. The rapid mineral absorption of the root without exfoliation, is due to the special nature of the cemental membrane as distinct from the membrane of the socket, and has been microscopically proved.

8. It is a great deal better to consider the peridental membrane as periosteum divided into two layers.

Periosteum	External (fibrous) layer, continued as the cemental layer	peridental membrane.
	Internal (osteo-genetic) layer, continued as the alveolar layer	

The structure: white, fibrous tissue, cells, blood vessels, nerves, little elastic tissue and no fat. Thicker at the neck than at the root. Fibers of periosteum run downward and inward to the root, so the more pressure on the tooth the more tense the fibers. Structurally, there is one common periosteum for tooth and alveolus, the fibers at the cemental surface being looser than near the bone. The fibers attached to the bone are arranged into bundles; thus some parts are seen to be denser than others. In the reticular or cemental fibers, cells or osteoblasts are seen, and also at the bone surface. Corpuscles are also dotted all throughout the periosteum. The fibers of the periosteum at the neck blend with the fibrous tissue of the gum, and with the periosteum of the alveolar border. Pulpitis leads to periodontitis or periostitis by free communication from vessels of the gum.

Diseases of the Alveolar Dental Periosteum.—The principal one is inflammation (periodontitis), and its causes number at least seventeen, viz.: want of occlusion; malocclusion; tartar; looseness of teeth; induration of tooth-tissue; cavities of decay impinging on cementum; excess of filling material; pulpitis; extraction of pulp without hemorrhage; external irritation by forcible removal of pulp; enlarged foramen; putrescent pulp; previous periodontitis; action of medicines locally; contact with arsenic; morphin; action of medicines systemically; action of syphilis, fever, diphtheria, gout, rheumatism. Inflammation here is no different, pathologically, from

any other, but it has special symptoms because of its position. Rheumatic periostitis is acutely painful, does not lead to suppuration, and varies with the weather. In mercurial periodontitis the breath is very foul, and if mercury is continued the whole surface sloughs away, together with much of the alveoli. Strumous periodontitis tends to rapid suppuration, swelling and abscess, and is less painful. Periodontitis due to phosphorus fumes is apt to end in necrosis of the entire jaw-bone.

The varieties of periodontitis are:

1. Acute, sub-acute and chronic.
2. Traumatic.
3. Absorption of roots in diseased condition of the membrane and after injuries, transplantations, replantations, etc. When the membrane is healthy, no absorption of roots of permanent teeth takes place.
4. Apical. Confined to the end of the root, following death of pulp.
5. Gingivitis. Inflammation of peridental membrane at border from constitutional causes, as ptyalism.
6. Calcic inflammation.
7. Phagedenic. A specific infectious inflammation having its beginning in the gingival border, and accompanied by destruction of the periodontium and alveolar walls. Rigg's disease. Periodontitis may be local or general, the majority of cases being the latter.

Repair of the peridental membrane is said never to take place by first intention, but always by granulation, which may begin in the tissue overlying the parts of the root, but the re-attachment creeps in from the injury where the peridental membrane is intact or from the extremity of the pocket above, and slowly covers over the denuded portions of a tooth. Sponge-grafting has been suggested to renew the gingival and lower border of the peridental membrane when lost from phagedenic periodontitis.

Periostitis, both acute and chronic, affects the jaws. The acute form is a dangerous one, as it so often runs into suppuration with consequent necrosis. It is only in the early stage that it can be recognized. The more chronic form is commonly connected with syphilis, and leads to the formation of nodes about the palate and enlargement of portions of the inferior maxilla, and it may be well to mention that many cases of persistent facial neuralgia, which are unrelieved by quinin, etc., yield to potassium iodid, and may be said to depend upon chronic periostitis or osteitis with, probably, pressure on the dental nerves.

Necrosis. This disease affects the inferior much more commonly than the superior maxilla, probably in consequence of its being less vascular. (Heath.) Beginning as periostitis from dental irritation, injury, action of specific poisons, the symptoms generally are, pain with pyrexia; part swollen, ingested; teeth raised and unable to bear any pressure. If immediately relieved by leeches, free incision, hot poultices, etc., the symptoms may subside and no further injury result; but usually pus will be found beneath the periosteum before the patient comes to you, and even then, though evacuated instantly, necrosis is usually the result. Luckily, necrosis sometimes only affects the external plate of the alveolus, so you get the teeth supported by the internal plate and you can keep them in situ; but when the entire alveolus is involved, the teeth loosened and possibly useless, they had better be removed, as they only stop up the discharge. Do not attempt to remove sequestra unless you are sure they are completely loosened, or you may inflict injury on the surrounding parts and interfere with the process of repair, and this is especially the case with children in whom the second teeth are still undeveloped. The time of separation is difficult to decide on, for we must depend on the strength of the patient, and the extent and position of sequestrum. It takes usually about six weeks to three months before large sequestra can be safely removed.

Another form of necrosis is the exanthematous, so named by Salter. This name is applied to the diseases found in young children, usually after attacks of specific fevers, especially scarlet fever and smallpox. Necrosis of portions of the alveolus of either maxilla which usually occurs on both sides alike, or even when it involves the whole thickness of the lower jaw, is now taken as one of the sequelæ of these diseases; and possibly many cases in years gone by, thought to be due to calomel were solely due to the action of the specific poison. The repair of bone in necrosis of the upper jaw is a little different from that of the lower. No reproduction of bone takes place, the gap left in adults being permanent, though in children, the subjects of exanthematous necrosis, the granulation tissue is slowly converted into fibrous tissue, which does not as a rule ossify. In the inferior maxilla, abundant new bone is formed by the periosteum, and for a time, at least, most extensive losses are repaired. It is certain, however, that in the course of years, a great, if not a complete re-absorption of new bone thus formed takes place, the patient being left finally with very little if any, support for artificial teeth. Prof. Salter has suggested that the early application of artificial teeth would tend, by use, to strengthen and maintain the permanence of the new bone; but I believe there are no facts to support this view.

The action of the fumes of phosphorus is well known to cause necrosis, but is less common now than formerly, on account of the substitution of red amorphous phosphorus for the yellow variety. It only occurs when the teeth are carious and the jaws in an unhealthy state. Those with carious teeth who work with phosphorus are always affected, and the necrosis is violent and rapid. The disease may begin as osteo-periostitis which rapidly ends in necrosis, or it may begin by osteo-plastic inflammation, swelling, profuse and offensive suppuration of the soft parts, attended with pyrexia. These symptoms are sometimes followed by gangrene, erysipelas and death. Sometimes the removal of the sequestrum is followed by recovery. The whole jaw is usually involved, the callus lying between the sequestra. The notable point to be observed in phosphorus necrosis is the peculiar deposit of pumice-like bone, which takes place upon the sequestra. This no doubt comes from the periosteum, although so closely adjoining the sequestrum as to be almost always brought away with it; and though resembling true bone in some particulars it is a little lower developed form of bone. A deposit closely allied to this, however, has been noticed in cases in which there was no phosphorus involved, and it would appear that, in some instances, possibly of rheumatic origin, the deposit of new bone partakes of this character.

The action of mercury can be briefly mentioned

here: it injures the teeth in two ways: by salivation and by the graver injury, the production of honeycombed teeth, which is often confused with the effects of inherited syphilis. Honeycombed teeth are the result of mercurial treatment during the period when the enamel is being calcified (J. Hutchinson, *Path. Soc. Trans.*, Vol. XXVI, 1875, pp. 235 et seq.) The two affections have been discussed by Mr. Hutchinson together, and because they are coincident with ophthalmic changes and the question of mercury occurs in both, much confusion has arisen. Below is briefly contrasted and tabulated these conditions:

	HONEYCOMBED.	SYPHILITIC.
1.	Are peculiar only in the latest formed tissue, the last layer of enamel.	Are most peculiar in the earliest formed tissue, the last formed enamel being usually perfect.
2.	Perfect at birth, become affected after a year or so.	Are imperfect from earliest germ stage.
3.	Are coincident with lamellar cataract, infantile fits, and mercurial treatment.	Are coincident with interstitial keratitis, inherited syphilis, and have nothing to do with mercurial treatment.
4.	The teeth that suffer most are the first permanent molars.	The teeth that suffer most are upper incisors.
5.	The general form of the teeth is unaltered.	The form of the teeth is profoundly modified.

Mercury, as a rule, on the deciduous teeth is a lasting injury, but on the periosteum in adult life it is transient unless long continued. In mild cases, in addition to periostitis, there is a profuse flow of saliva, a mercurial fetor of the breath, with later on swelling and sloughing of the alveolus and gums, upon which in severe cases a whitish membrane appears; this is at first lightly attached, but later is adherent, and it is *underneath this* that ulceration of the gums takes place. The teeth soon loosen and are lost, and in very bad and neglected cases the whole surface sloughs away, together with much of the alveoli, and necrosis of the whole jaw may result and we have mercurial stomatitis.

Periostitis due to rheumatism will very likely pass away, especially if much affected by the weather, but it is often difficult to persuade a patient to retain a dead tooth which keeps up this periodical irritation. For these cases, what treatment can be given other than systemic remedies, counter-irritation, warmth, and patience?

Periostitis due to syphilis or struma is not so easily disposed of, for it usually progresses to the worst degree. Salivary calculus, if removed in time, will scarcely ever cause dangerous periostitis, but the serumal is a great deal more likely to set up and prolong irritation to such a degree as to cause exostosis and its concomitants; and as we can seldom remove it unless by extracting the tooth and scraping the deposit from the ends of the roots and replanting, the prognosis is not at all favorable. When due to the last stages of pulpitis, misapplication of arsenic, the chances of recovery for the tooth are smaller.

Before noting the diseases of the maxillæ, it will be well to allude briefly to a disease of the alveoli, pyorrhea alveolaris or Riggs' disease. We are all very well aware of how little is known on this subject, and of the theories advanced. Why should we classify this as a special disease all by itself, instead of following a more logical course and regarding it as a pure periosteal one, for its pathology can be best understood if it is regarded as a form of osteo-periostitis, even though it is confined to the alveolus—in fact a final stage of periostitis, as the effect upon the teeth is entirely secondary and consequent upon their separation from the soft parts. In its symptoms and characters, both macroscopically and microscopically, the course it follows and its amenability to various forms of treatment, it presents no special phenomena to distinguish it from simple caries of bone, save that the latter disease is almost always associated with an impaired condition of the general health. In this respect, and in the absence of fever, pyorrhea alveolaris more closely resembles Sir James Paget's osteitis deformans, concerning which I quote the following: "The surrounding gum becomes spongy, deep red, and sometimes tender; it separates from the neck of the tooth, while at the same time the periosteum suppurates and discharges pus, which is continually oozing out around the necks of the teeth and can be generally pressed out in great quantities. It is extremely chronic, begins generally in early middle age, and may continue for an indefinite time without influencing the general health. The early stages of the disease are sometimes attended with pain varying widely in severity. The breath is usually foul, the roots covered with irregular granular masses of greenish or blackish tartar, the discharge offensive and the whole mouth tender." The causes are not easy to find in all cases, but they are similar to those which cause periostitis. Injury of any sort to the periosteum, as cold, a blow, or excessive bite; a strumous or syphilitic diathesis seems often to coëxist.

The treatment should be based on surgical and medical principles, allowing for location, exactly like caries of bone, where the use of steel instruments is usually contra-indicated on account of the further injury which is likely to ensue. Unfortunately, our knowledge has been handicapped thus far by regarding this disease as a purely dental one, confined to dental tissues, instead of a surgical bone disease. The more the disease was regarded as dental, the more did we forget that the alveolus was only ordinary bone, subject to the same changes as any other bone, and having just as unsatisfactory treatment as caries has wherever it occurs.

NECROSIS CONTRASTED WITH CARIES.

	NECROSIS.	CARIES.
1.	*Parts affected.*—In compact tissue. Blood vessels are better supported in compact bone and so less liable to passive congestion, but from the narrowness of the canals they are quickly strangulated by the pressure of the exudation and so the bone is rapidly and completely deprived of vitality.	1. Most common in cancellous tissue. Here is room for dilatation and exudation without their causing a sudden stasis in the vessels.
2.	*Result of Probing.*—A probe is suddenly arrested by striking against hard bone, without giving rise to pain.	2. It is felt to pass through soft inflamed bone and this is quite sensitive.
3.	*Nature of the Discharge.*—Is mostly purulent.	3. More watery or serous and has a greater amount of lactic acid.
4.	*Granulations along the sinus and at its orifice.*— Are comparatively healthy, often fungous and florid.	4. Small; or large, pale and edematous.
5.	*Cause.*—The more acute, local injury or constitutional as acute specific fever, the more likely is inflammation to end in necrosis.	5. In scrofula, caries is most common.
6.	*In syphilis.*—Both are frequent.	

Under the head of hyperostosis we will group cases in which general enlargement of the maxillary bones occurs, without any tumor which could be properly placed among the osteomata. Enlargements of the angles of the inferior maxilla quite apart from the development of the teeth, and giving a peculiarly broad appearance to the face, occur in otherwise healthy subjects of about twenty, and they appear to be stationary. In true hyperostosis, however, there are always large nodules of bone, often symmetrical, thrown out by the bones of the face and cranium, which slowly but steadily increase in size, producing

hideous deformity and finally causing death. Heath has operated on some cases where the disease was unilateral, with good success.

Cysts occur in both jaws, either single or multiple. Their origin is probably in the cancelli of the bone, and is in many cases due to irritation caused by neighboring teeth; a cancellous being filled with fluids expands, and produces a gradual absorption and obliteration of neighboring cancelli until a cyst of considerable size is formed.

The multilocular cysts of the inferior maxilla appear to be more closely connected with the teeth than the single cysts, since in many cases the extraction of teeth or stumps gives exit to a quantity of glairy discharge. Distension and absorption of the alveoli go on as the cysts increase in size, so that the walls at length become membranous and the macerated bone shows great gaps in outline. A remarkable point is the length of time over which they may extend without injuring the patient except by inconvenience.

Tumors, Neoplasms, Non-Malignant.—Fibromata of the jaws resemble fibromata of other parts, but they have two origins: the periosteal, springing generally from the alveolus, and indistinguishable except by its size from epulis, and the endosteal, which springs from the interior of the bone and in the upper jaw, generally makes its way into the antrum and nasal cavities, or in the lower jaw expands the inner and outer plates of compact bone. Fibromata seem to owe their origin, in many cases, to the irritation of decayed teeth, which may sometimes be found embedded in the growth or displaced by it. The growths produce absorption by pressure, and may in this way destroy a great deal of structure.

Epulides are of two kinds, fibrous and sarcomatous. The fibrous epulis starts from the periosteum of the jaw, and is covered by the epithelium of the gum. The growth consists of long fasciculi of white fibrous tissue, which have a radiating arrangement, in many cases, from the point of growth; the most noticeable feature is the length and slenderness of the fibrous fasciculi and their loose felted arrangement. Epulides depend for their hardness on the amount of fibrous tissue they contain.

Angiomata may also occur, and I know of one case growing from the posterior wall of the antrum, which was diagnosed as osteo-sarcoma by a most competent physician and surgeon. The true nature of the growth is shown here by two micro-photographs, taken from the specimen before it was hardened, and it will easily classify itself into a fibro-angioma showing two distinct kinds of structure, the fibrous and the angiomatous, thus accounting for the excessive hemorrhage which occurred during the operation. It is well to remember that we may have both simple, cavernous, lymphangioma and angio sarcoma.

Enchondromata are less frequent in occurrence in the jaws than fibromata, and like them may for convenience be divided into periosteal and endosteal. The disease usually appears early in life, springing from the surface of either jaw or from the antrum or the interior of the lower jaw, and has a more steady and rapid growth than fibromata. In the case of the superior maxilla the growth is more tuberous, and is apt to send off processes into the fissures and cavities of the skull, giving rise to great deformity. Enchondromata as regards their microstructure vary greatly, and we must prepare for many enigmas in studying them. Whenever chondroma is associated with sarcoma it seems to take an erratic course; when, however, a pure chondroma is found, it is always more near the normal type of cartilage. All the chondromata are very liable to calcification, and they sometimes undergo a softening process and small cysts form in them.

Osteomata are a further step in the development described under chondromata. They are formed from newly-developed connective tissue, and it is a fact which distinguishes them from so-called ossified inflammatory products. After decalcification under the microscope they resemble true bone, and like it, can be divided into hard and cancellous. Many, however, vary a good deal from the normal type, especially the hard variety, which is sometimes extremely dense.

Osteomata have been described as primary growths, but are extremely rare. True bone is sometimes found in cartilaginous and fibrous tumors, and also in sarcoma, as the myeloid variety. The cancellous osteoma is the simplest form, and due usually to a misplaced tooth; and the fact that numerous serious operations have been performed in these cases, should make every one extremely careful in their diagnosis. The growth is slow and reaches a large size, but when removed by section of the healthy bone it shows no tendency to recur.

Under the term, cystic sarcoma, many varieties of growths were classed and by some authors termed a variety of epithelioma (see Mr. Eve, in Erasmus Wilson Lectures for 1882), but they differ so completely from the ordinary form, as to rapidity and recurrence after removal, that as yet further observations must be made before any decision can be arrived at.

The largest and most dangerous class of growths met with are the *sarcomata*, divided into three classes by the shape of their cells: *a*, round; *b*, spindle; *c*, myeloid. And these have again a number of modifications and varieties. As the general features are so well known, little or no description will be given beyond a few points of interest which may occur in them. The spindle-celled sarcoma is quite frequent, forming many of the specimens so indiscriminately named "osteo-sarcoma." A point worthy of notice in the recurrent growths is the tendency to become softer with each recurrence, and the patient dies, worn out, with rarely secondary deposits in internal organs.

Round-celled sarcoma has unfortunately not been clearly defined in oral surgery until the progress in pathology became so marked, and even now it is often named wrong. It is still called encephaloid sarcoma of Cornil and Ranvier and others, when we to-day usually regard encephaloid not as of the sarcoma but of the carcinoma group, as it originates from glandular epithelium. Many of the cases called "medullary" cancer of the jaw belong to the class of round-celled sarcoma. Myeloid sarcoma, originally described by Paget, is very common, and found in connection with the alveolus, forming the so-called myeloid epulis, and also in the interior of the lower jaw. The growths vary enormously histologically. In the first place they get their name from the large cells they contain, which closely resemble those found in the marrow of bone; and usually are known by their red color, resembling raw beef, and are named by Butlin

a mixed celled sarcoma. In connection with the pure form of myeloid sarcoma we have myxomatous tissue and bony formation or ossification closely combined. The ossification is usually a peculiar shape, the material formed resembles decalcified bone, and contains no lime-salts. By using double and triple staining processes the different reactions in the normal formation can be made out very nicely, and the lime deposited by each individual cell, but in the sarcomatous form of ossification it so far has not been shown. The ossifying process must not be confounded with cases where the growing sarcoma has decalcified the bone in its immediate neighborhood; this is sometimes the case, especially in bones like the scapula, and portions of this in the middle of a sarcomatous growth will cut like fibrous tissue without any decalcifying process. Under the microscope this can readily be made out; the lacunæ in them are larger and often empty, and there are no osteoblasts on their free edges. That sarcoma has a decalcifying power is seen in China, where the jaws of horses are often attacked and so softened that you can cut through them with an ordinary knife, just like cutting a piece of cheese. Myeloid sarcoma also forms one kind of epulis, and care must be taken in making a diagnosis.

Besides these forms, we have alveolar sarcoma, which is a rare and unsatisfactorily described growth. By Wedl it is called "a fibrous form of cancer arising from bone," and should be included under cases hitherto given as scirrhus of bone, which is not strictly correct.

Fibro-sarcoma grows beneath the periosteum, and closely resembles fibroma.

Chondro-sarcoma is a mixed growth, and occurs in both jaws, and frequently leads to secondary deposits in the lungs.

Ossifying sarcoma has been classed for greater convenience under the enchondromata and osteomata and myeloid sarcoma.

Finally, we have to consider carcinoma, which for convenience has been classed as follows into two groups, according to the character of the cells from which they are formed:

Superficial epithelioma: squamous epithelioma.

Glandular epithelium; *a*, columnar epithelioma; *b*, scirrhus carcinoma; *c*, encephaloid carcinoma.

Carcinoma affecting the jaws is only epithelioma of the squamous and columnar form. The first variety developing primarily in the mucous membrane of the palate and gums; the columnar form beginning in the antrum or nose. The two forms rapidly invade all the tissues, even to the bones. When squamous epithelioma begins in the palate or gums it is very often not noticed, and its nature is often mistaken at first. Beginning as a small ragged ulcer, it is often attributed to decayed roots or secondary syphilis, etc., and only locally treated. Ulcer of the palate of an epitheliomatous character is more frequently attributed to tertiary syphilis, and even large gaps in the hard palate caused by epithelioma are supposed to be the result of a broken-down gumma. By involving the subjacent bone, necrosis is induced in the course of an epithelioma, and here again error may arise if the presence of bare bone be regarded as pathognomonic of necrosis, without considering the cause.

Much information and profit can be gained by consulting the following works, to which I owe much information, especially the valuable works of Prof. C. Heath:

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DR. J. S. MARSHALL said the paper was an excellent one, and the author deserved the thanks of the profession for preparing it. Discussing the paper he said that it was often difficult to distinguish certainly malignant growths in the jaws, but he thought it best in cases where there was any real doubt to cut away tissue, though it may be benign, rather than take the chance of letting a malignant growth increase and so endanger the life of the patient.

The tumors most frequently seen are called epuloid, and he thought the one described by the essayist to have been of that character. These are not usually malignant, but they sometimes take on a malignant character. He could not account for the great swelling in connection with a tumor of this size. Dr. Latham had asked him about it and he had told her he had not seen such a case; however, she had been informed by other dentists that it was common. His treatment would be the immediate and thorough removal of such a tumor for fear it would take on a malignant growth.

DR. TAFT asked how long it had been since the tooth was removed?

DR. LATHAM answered: "In February; no other tissue was removed, the tooth came away quite easily, and the cavity healed up very nicely."

DR. TAFT said this emphasizes the danger of making more of a case than belongs to it. If the parts returned to a healthy state it would eliminate any idea of malignancy. In diagnosing and treating such cases, much attention should be paid to the physical characteristics of the patient. If his condition is generally good, it is safe to consider that the tumor is of a benign character, while a tumor of the same appearance and character in one whose system was diseased would probably take on a malignant character. He had been called upon to assist a physician to remove what the physicians called an epulis. To his surprise, the physician removed the cuspid and bicuspid teeth, then took a saw and cut out a notch including the sockets of the two teeth. His own treatment would have been to have considered the growth a little insignificant benign epulis, and he would have removed it with a pair of scissors. He spoke of several cases in his own practice of the kind, and said it was well not to be too hasty in pronouncing a growth of this character malignant. The growth, origin and causes should be studied, and the case kept under careful observation for some time.

DR. MARSHALL said the only positive way to diagnose a tumor is by the microscope. When the tumor is large enough and of such a character that a piece can be cut from it with the scissors he examines it himself, and has it examined by some one in whom he has confidence, and if it is pronounced malignant then he removes it, going deep enough to be sure to remove all the affected tissue. By prompt and thorough removal the life of the patient may

be saved, but if operation is deferred until the disease has invaded the glands the growths will return at the same, or at some other place, and the life of the patient will not be for long. He related the case of a patient, a man about sixty years of age, with an epuloid tumor between the first and second bicuspids on the right lower side. There was considerable ulceration, involving gums and cheek, almost to the corner of the mouth. On examination it was pronounced an epithelioma. He made a most thorough operation, removing three teeth, the alveolus down to the dental canal, and part of the cheek. The parts healed nicely; the wound in the cheek by first intention, and fifteen months having passed since the operation, there has been no recurrence of the growth. He, however, expected that if the man lived a few years it would recur, either where it was before or in some other place.

Dr. Taft said that the class of patients operated upon in general hospitals was so far below the class that a dentist or physician would have in his private practice, that it was not safe to accept what was true of one class as applying to the other. Hospital patients were to a very large extent little more than wrecks, their whole system broken down by poverty, vice and disease, no vigor or recuperative power, and a disease which could be safely handled and cured under better circumstances was well nigh hopeless with them.

He spoke of a case in his practice, of a girl with a tumor on her jaw as large as a pigeon's egg. Relief was sought because of the rapidity of the growth. Upon examination Dr. Taft thought it not malignant. Two surgeons were consulted. The first one after a careful examination said he could not decide; the second after looking at it two minutes said it was malignant and unless the whole side of the jaw was removed the girl would die of it. The decision arrived at, however, was to merely remove the tumor and carefully watch the case. Some time after the tumor returned and electrolysis was used, and it entirely healed up and never returned. If the advice of the surgeon number two had been taken and the girl's jaw sawed away, she would have been mutilated for life. He spoke of the great importance of the dentist being able to judge of the characters of such growths. They came under the notice of the general practitioner. The best manner of removing them when small and of a favorable shape was by a ligature. This is painless and saves what sometimes would be an alarming loss of blood. The patient should be carefully treated before and after the operation so as to get and keep the system in the best possible condition.

Dr. E. S. Talbot spoke of the growth of secondary dentine as shown in the case of which Dr. Latham spoke. These growths were difficult to diagnose and they produce periostitis and neuralgia. They are most frequent in the pulp chamber and root canal, and neuralgia results. The only treatment is the removal of the tooth.

Dr. J. S. Marshall spoke of the formation of calcific deposits in the pulp chamber, and said that, at a rule, peripheral calcifications do not give any trouble, but the interstitial form always makes trouble. One reason that they are difficult to diagnose is that the patient can not place the seat of the trouble, though sometimes the tooth feels big.

Dr. A. E. Baldwin said that it was best when in doubt to treat an epuloid growth as if it was malignant, as it was better to go too deep than by taking the other course to endanger the life of the patient. We should, however, take advantage of the knowledge of other physicians when attainable, and above all other things fit ourselves to be able to discriminate by a wider and deeper course of study and research. The whole field of microscopy is opened by such a subject as this, and it is only the intense and rapid student that can take advantage of the facilities for learning that come to our hands. He spoke of a case of his own which he thought was a simple harmless growth, but took advantage of the offer of a friendly microscopist to examine it when it was found to be malignant, and so he operated accordingly.

Dr. Latham in closing the discussion, said that there were some dentists who never looked further than the tooth they were working on, and she thought they should be more careful to examine the whole mouth and note every appearance of disease, thereby serving their patients better. She spoke of a case in her own practice where she had discovered an epithelioma, which would be removed by a surgeon. She thought that it was dangerous, however, for a dentist to undertake the treatment, by means of caustics or other remedies, of growths in the mouth unless they had sufficient knowledge to discriminate between harmless and malignant tumors.

SOME SUGGESTIONS AS TO THE RELATION OF THE TEETH TO EMPYEMA OF THE MAXILLARY SINUS.

Read in the Section on Dental and Oral Surgery, at the Forty-fourth Annual Meeting of the American Medical Association.

BY M. H. FLETCHER, M.S., M.D., D.D.S.
CINCINNATI, OHIO.

In this paper the anatomy, pathology and treatment as usually given by authors on disease of the antrum of Highmore will be largely omitted, since the disease of this cavity is a subject much written upon and consequently these points must be familiar to all who have given the subject any considerable attention. It is desired, however, to deal principally with the etiology, believing that if the cause of the disease is correctly diagnosed, the treatment is comparatively easy.

Authors and practitioners seem to be divided into two classes viz., those who believe that diseases of the maxillary sinus are most frequently caused by dental lesions, and those who believe that they are more largely due to intra-nasal disorders. The latter view is held by Zuckerkandl, Schiffert, Chatallier, Krause and Bosworth.

Those who look more largely to the teeth as a cause of trouble are Lewis, Baratoux, Noquet, Boucheron, Garel, Gele, Beverly Robinson, Lennox Browne, Garretson and Tiffany. In "American System of Dentistry" (page 562) Tiffany says in regard to disease of the antrum: "It is not met with as an idiopathic affection; it occurs as the result of injury, and as an extension from a diseased tooth. The first and second molars are the most likely to act as the inciting causes, as their fangs *project into the floor of the antrum.*"

In treating of the diseases of the antrum, Lennox Browne says: "*The cause is almost invariably an alveolar abscess*, which has extended into the antrum through a natural connection with that cavity. As in the case of the first molar tooth or breaking down of the slight bony partition in some of the other upper teeth."

Bryant in his last edition says: "Suppuration of this cavity is often due, doubtless, to the extension of inflammation from the teeth."

These quotations are a fair sample of the words of most of those men who claim that antral troubles come largely from the teeth, and it would seem that they copy largely one from another. This I deem to

be a defect in many of our text-books; many men copy from previous writers or write *for* experience instead of *from* experience thus leaving us without additional knowledge.

Those writers of contrary opinion cite many pathologic conditions of the intra-nasal tissues as the more frequent cause. Among these causes are new growths, catarrhal inflammation, acute and chronic, and stenosis of the osteum maxillare.

It is not proposed to go largely into the etiology of the intra-nasal troubles, but give attention more especially to the claims of those who blame the teeth for these disorders. The writer's views coincide with those of Zuckerkandl, Schiffert and others who believe these antral troubles are more largely caused by intra-nasal disorders, and I wish herewith to present evidence for such an opinion.

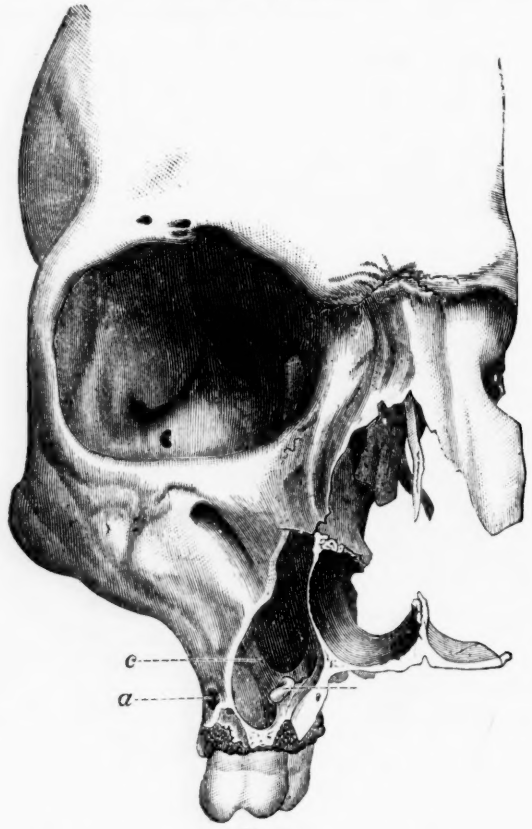


Fig. 1.

This opinion has been arrived at after some years of experience, in addition to the examination of *one hundred skulls*. These skulls were examined with special reference to the relation of diseases of the teeth to the antrum. It is known that the anatomy of the antra of the superior maxillary bones and their nervous supply is such that there can be no disease by reflex action from one to the other as occurs, for instance, in sympathetic ophthalmia, consequently these cavities are dealt with as separate organs. The statistics then would show two hundred antra, instead of one hundred. These skulls were examined for five particular points, viz., 1, for abscessed teeth; 2, for septa; 3, for conical protrusion of the roots of the teeth into the antrum; 4, for perforation by the roots of the teeth without protrusion; 5, for perforation of the antrum from ulcerated teeth.

1. As to abscessed teeth and the connection of such abscesses with the antrum. Only such teeth are mentioned as might most easily produce antral trouble, viz., the three upper molar teeth, the bicuspid and canine teeth being too far forward to be counted in these statistics. I might say, however, that in a number of these skulls evidence of ulceration was found in the bicuspids and canine, with no apparent connection whatever with the antra, save in one case. As to the molar teeth, ulceration was found in more than 25 per cent of the cases; there being in these two hundred examinations, fifty-seven ulcerated teeth, and out of these *fifty-seven possible cases* of perforation by inflammation and its results, we found such to be the case *only four times;* all other cases having perforated the alveolar border and discharged the pus into the mouth, two of them discharging both in the mouth and in the antrum, as is evidenced by the specimen No. 1 (See Fig. 1-b)[1]

This does not show a very large proportion of cases

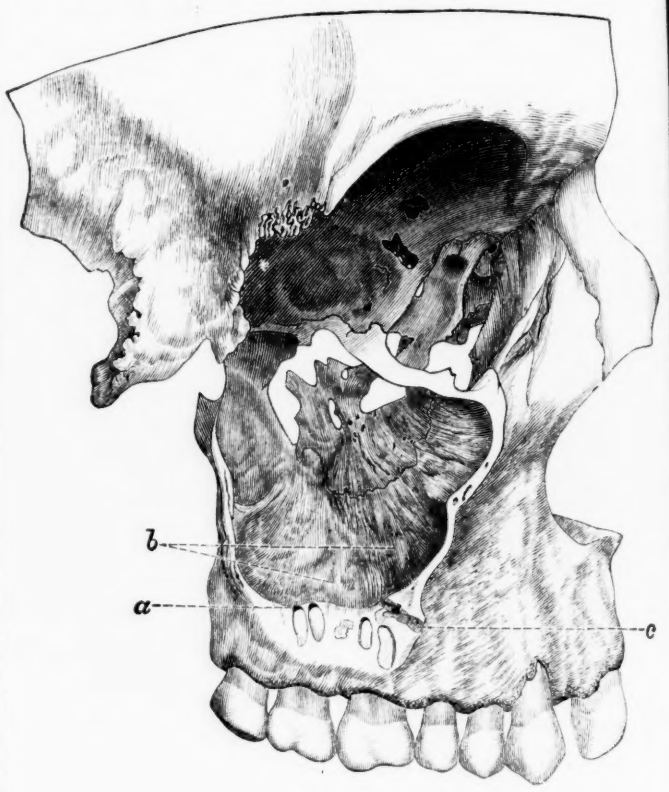


Fig. 2.

where antral trouble has come from the teeth, being less than 8 per cent. in fifty-seven possible cases.

In addition to these figures, I wish to offer as negative evidence, statistics from my own records in regard to the relation of these diseases of the teeth to the antrum, as they have come under the writer's observation. I have in the past 10 years treated 916 cases of pulpless teeth. Two hundred and twenty-four of these being superior molars, which, according to the authors named above, could and probably would have caused inflammation or pus in the antrum of Highmore. Out of this number, from my own records, only one had pus in the antrum as far as examination could tell; and this is the only marked and certain case of empyema of the maxillary sinus caused by the teeth that I have seen.

I have, on the other hand, treated a case in which

[1] NOTE.—It is so difficult to reproduce these sections by cuts, that the specimens themselves must be seen, in order to thoroughly comprehend many of the points referred to in the paper.

the teeth *were made pulpless by a diseased antrum*, and this I believe to be a condition more frequently brought about than the reverse, from the fact that some of the teeth in the skulls examined, perforated the floor of the antrum with no protuberance, septa or other covering save that of the mucous membrane. (See Figures 1 and 2.)

Such perforation I have found in eight cases, which number I believe to be smaller than it should be, could all cases have been thoroughly examined for minute openings. It must be evident that the mucous membrane covering the apices of such teeth, if diseased, could easily cause the death of a tooth by destruction of its blood and nerve supply, which, in its turn, would produce a dental abscess or inflammation about the roots of the tooth, thus producing a difficult case to diagnose. The possibilities are that such diseased teeth having been found connected with the antrum, the teeth have borne the blame instead of the diagnosis having been properly made, and the opinion has prevailed that diseased teeth are largely the *cause* of antral trouble instead of the *result*. In order that these cases can be properly diagnosed, they must needs be examined by one thoroughly familiar with alveolar abscesses, and the causes leading thereto, which I claim very few persons can do who are not experienced dental practitioners of acute and accurate observation.

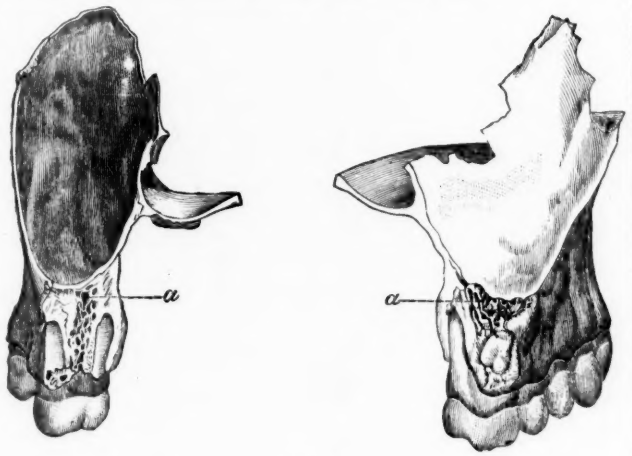


Fig. 3.

It would seem that these teeth whose roots perforate the antrum, where there is usually neither septa nor protuberance over the roots of the teeth, are more likely to cause the trouble in question than those which show the tubercle above the roots. This protuberance in question (pictured by Zuckerkandl, and copied by Bosworth, photographs of which cut I show you), (See Fig. 4) seems to be the prevailing idea of the relation of the teeth to the floor of the antrum, but which from my own observation is quite erroneous, never having seen but one case which approaches this condition. (See Fig. 1-a.) You can readily see these tubercles are not in the center of the floor, nor in direct line, nor is the floor flat for their reception, as Zuckerkandl's picture shows it (See Fig. 4), consequently his illustration seems ideal rather than true to nature. It would seem the rational thing (if we are to treat diseases successfully) to first know the anatomy of the parts, then we have the true foundation upon which to build our idea of the pathology. These two points being founded on the truth, our treatment is comparatively easy; whereas if we proceed on an improper conception of the anatomy we are endeavoring to treat imaginary things, and it is only through nature's kindness that our patients recover, for nature follows unchangeable laws.

Some further observations made in regard to the floor of the antrum are as follows: in about 25 per cent. of the cases examined, small septa or ridges were found to cross the antrum (See Fig. 2). These ridges you will observe have no relation to the position of the roots of the teeth, although in some cases they were found to come directly over the roots in place of the tubercle, as pictured by Zuckerkandl.

Another evidence can be presented to show that abscessed teeth do not frequently break into the antrum or cause any trouble there whatever, by taking into consideration the amount of cancellous tissues found about and above the roots of the molar teeth in almost every case. By examination of this section (See Fig. 3-a), it will be observed that the diploë or cancellous bone about the roots of most of the teeth affords quite ample space for the products of inflammation. These spaces being filled with soft tissues, like marrow, easily take on inflammation and the products of inflammation may largely displace them. Again, when we have inflammation in this cancellous tissue, and about the apex of the

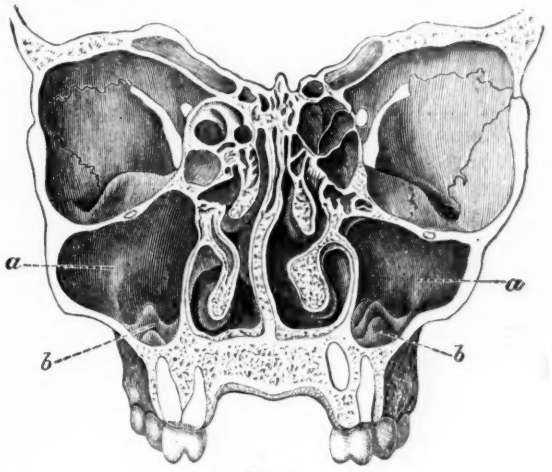


Fig. 4.

root, we have the peridental membrane largely involved. This of itself gives way, as is evidenced by the lengthening of the tooth, and the products of inflammation may easily push down the side of a root and also easily perforate the alveolar process. The alveolar process on the buccal surface over the roots of the teeth being very thin (and often absent in spots), would be quickly perforated; whereas the floor of the antrum is usually thicker and of a dense horny character, consequently it would not be perforated as quickly as the alveolar process; and it seems in these cases that the peridental membrane is very largely affected, which is evidenced by the examination of the sockets and bone where there has been an alveolar abscess; this is readily seen in specimen 1 (See Fig. 1) which you have already examined for another point. This specimen shows the evidence of a perforation in three separate places, one for each separate root, the two buccal roots having discharged the products of their inflammation in the mouth, and the palatal root opening into the antrum at the apex of the tubercle. This antrum

also has a more distinct septum than most that were examined, although I found four or five septa that were even larger than this.

I found one case of which I especially wish to speak, and which has already been mentioned. Skull No. 81 of my examinations has evidence of the worst trouble I found from alveolar abscess. In this case the roots of the canine, the first and second bicuspid, and palatal roots of the first molar were involved. A cavity had formed in this case reaching from the lateral tooth back to the first molar, and from the alveolar border to the summit of the canine fossa, measuring about an inch in diameter.

A septum seemed to have formed or had already been formed between this cavity and the antrum, completely isolating the antrum from any connection with the trouble, although the palatal root of the first molar was involved; yet there seemed to have been no connection of the disease between this tooth and the antrum, although the floor of the antrum could easily have been perforated through the socket of the buccal roots of this same tooth. If there was a discharge from this molar at all it showed no evidence in the antrum, but did show evidence in this external and anterior cavity, which seemed to have been the result of chronic inflammation and collection of pus.

In regard to the proper place to perforate the antrum from the mouth when demanded: after taking the anatomy of the parts into consideration, it would seem that for several reasons the opening should be made between the apices of the second bicuspid and first molar.

1. Because this locality is the most accessible.

2. A perforation here does not interfere with the blood or nerve supply of either tooth.

3. By raising the lip well, and slanting the drill upward and backward, you are sure to strike the floor of the cavity almost at its lowest point.

4. If a tube must be inserted, in this position it will be held somewhat in place by the lip, whether the teeth are present or absent.

The summing up or rationale, then, of the evidence herewith seems to be:

1. That the anatomic relation between the teeth and the antrum is not generally understood, since the sections here shown give evidence of much more cancellous bone than is usually considered to exist.

2. Small septa are present in a large per cent. of cases, and these septa or ridges have no direct relation to the position of the teeth.

3. The evidence seems to indicate that the protrusion of the teeth into the cavity is very largely the exception, instead of the rule, and that if they do protrude it is not evidence that an alveolar abscess would break there, since these tubercles are usually formed of dense hard bone.

4. A number of cases have been found where there is a perforation of the bone by the apices of the teeth and no protrusion, but that these apices are simply covered with mucous membrane; thereby the teeth may be affected by inflammation of the antrum, causing their death and loss, or a continuance of the trouble in the antrum by their presence in consequence of this special feature of the anatomy, and that pulpless and inflamed teeth are thought to be the usual cause of antral trouble where the reverse is oftener probably the case.

5. Statistics seem to show that a very small per cent. of abscessed teeth have any connection whatever with the antrum. This per cent. probably not being over seven to ten.

6. That seemingly the best place to perforate the antrum for pus, is between the apices of the second bicuspid and first molar.

Since writing this paper, I have examined an additional 400 skulls and find the figures changed in regard to the per cent. of abscessed molars which were connected with the antrum. In 500 skulls (*making one thousand antra*) I find 252 upper molars abscessed. Making 25 per cent. of antra which have abscesses in this locality or every fourth antrum; this per cent. is probably smaller than it should be, since many teeth were lost and the alveolar process absorbed away and undoubtedly some of these lost teeth had been abscessed; out of these 252 possible cases, perforation into the antrum was found only 12 times, thus showing over 4½ per cent. or about one in every 21 of the abscessed teeth in this locality which communicated with the antrum.

DISCUSSION.

DR. TALBOT said, having in the last fifteen years made over twenty thousand examinations of skulls, he had found some of the conditions noted by the essayist. Of the skulls of civilized persons he had noticed many of these separations of the antrum, but he had never seen such in ancient skulls or the skulls of pure races. There is a state of things not brought before you by the paper; it is arrest of development of the bones of the face. This is a condition very common in civilized cities especially. In these cases the antrum is about half the size of the antrum in pure races, and it is such cases where protrusions occur as shown in the specimens exhibited. He said he would like to ask how the treatment would be carried out where a septum nearly closed the cavity? Would there not have to be two openings? There is much variation in the shape and size of this cavity in different skulls and it would be well if they were classified as to shape and size and other peculiarities. He had found a number of cases where the opening from the antrum into the nose had been closed up, owing to the arrest of development of the bone.

DR. LATHAM said every one knows the difficulty of deciding where to open into the antrum, but she thought the best place was from the socket of the first or second molar, when these teeth are missing or can be extracted. A good way to get rid of the pus, when the patient will help you is by means of constant irrigation, that is by washing out with the syringe ten or a dozen times a day.

DR. CLIFFORD said he was impressed with the desirability in cases of antral trouble not to depend upon local treatment. In many cases by treating systemically and getting the system in first rate condition the catarrh will dry up without other treatment. In cases of purulent secretions of any nature, or affecting any part of the system, constitutional treatment is of the greatest importance.

DR. FLETCHER in closing the discussion, said that he had not aimed at going into the question of treatment in his paper, but had wished to present the case in a pathologic and anatomic light. We should find out what a diseased condition is before we undertake to cure it. In regard to the septum in the antrum, he said if the perforation was made just where indicated, and the patient assumed a horizontal position, every part of the antrum would drain, except in a case where the septum extended clear or nearly across, when of course there would have to be another perforation. If the first molar is absent the best place for the perforation would be through its socket. In every case he had examined, this would enter the antrum. In treatment he favored both constitutional and local treatment. Some cases are very tedious. He had one now which he had been treating for five months and it was not cured yet.

SYSTEMIC MEDICATION IN DENTAL PRACTICE.

Read in the Section on Dental and Oral Surgery, at the Forty-fourth Annual Meeting of the American Medical Association.

BY EDGAR PALMER, D.D.S.
LA CROSSE, WIS.

Let us consider first our specialty in its physiologic and pathologic aspect.

It is supposed that all who are associated with this Section are of the opinion that "dentistry is a specialty of medicine."

It is sufficient for me to base my remarks upon the simple fact that an all-wise Creator has given man organs of mastication much after the same manner and for an equally important service as the organs of hearing and sight, and these organs being subject to abuse, disease and functional derangements, thousands of persons are required to devote their lives to their care and treatment. I am aware it is asserted that this great army of scientific men are, by the mechanical character of their methods, too far removed from the province of general medicine to be entitled to the privileges accorded to the oculist or aurist in giving attention to functional disturbances remote from organs over which they have special charge. I confess that my eyes are too weak to see the distinction, and my ears too dull to hear the voice of duty calling louder in one case than another. All the ambition and desire of the last years of my school life was centered upon the one thought of some day entering upon the practice of general medicine and surgery. An empty purse obliged me to take up something else, and as a temporary expedient I took my place at the foot of the ladder upon which the dental profession was then slowly climbing toward the distinguished eminence which it now occupies in the department of science.

The status of dentistry to-day is most gratifying. For many years every force and pressure of intellectual progressive effort has been brought to bear upon the creation of a higher standard of qualification; and while we have done much, there is opportunity to do more to exalt and commend our services in this general and beneficent cause of humanity.

I can confidently say that now, after more than thirty years' constant practice of this specialty, I am as near the practice of general medicine as I ever expect to be. This branch of the healing art, with its achievements, is good enough, and its resources and beneficent possibilities stimulating enough for any purpose save avarice and greed. The words of Daniel Webster in relation to the practice of law are so germane to this thought that I quote them here:

"Our profession is good if practiced in the spirit of it; it is damnable fraud and iniquity when its true spirit is supplied by a spirit of mischief-making and money-getting. The love of fame is extinguished; every ardent wish for knowledge repressed; conscience put in jeopardy, and the best feelings of the heart indurated by the mean, money-catching, abominable practices which cover with disgrace some of the modern practitioners of law."

The application of the established principles of general medicine was a matter but little considered in the first years of my practice. I frankly say it is comparatively but little understood by me to-day. This much we do know, however, that it is the province of the dentist to search for bodily manifestations in health and disease which may bear upon the interpretation of dental function. We do not deal with the human teeth as though they were a mere mechanism of bone and pulp and nerve, or deal with their functions as an independent agent, with little or no concern or relation to other organs and the whole life of the being, but recognize a vital harmony and essential interdependence—the orderly subordination and coördination of parts each dependent upon the other for functional activity.

The magnetic influence and electric force of all nerve-supply, and the effects of fully charged abundant blood courses, bring to our aid a health-giving action upon which we can build pledges of success, while on the other hand, lacking in vitality, a system with evidences of derangement in formidable disturbances, neurasthenic in character, we are safe in predicting an aggravation if not the direct source of dental lesions.

The only conspicuous inheritance three-fourths of the human race confer upon their offspring is a stunted development and impaired structural formation of the different organs that so universally beget disease.

Temperament and disposition are not more certainly marked upon the child than the impoverished condition of all nerve and blood-supply, from defective nutrition and assimilation, and as such conditions in the child are rarely obliterated during life, they should not be neglected in our practice for physiologic, pathologic, and diagnostic purposes at any time.

The organic origin of pathologic processes influencing local lesions, has for many years impressed itself upon my mind as a subject worthy of our earnest consideration. As long ago as 1878 I was permitted to read a paper before the American Dental Association upon this subject. I say "permitted," because that honorable body has a peculiar system of quarantine, requiring every immigrant, suspected of having contracted germs of progress, to be searched. My paper when returned to me bore a verbal indorsement something like this, in sentiment: We, the undersigned Sanitary Committee, have discovered in this, microscopic traces of an idea, but as we do not regard it of sufficient virility to infect any great number, you have our permission to read it. Whether the idea discovered by that Committee was what I intended to embody in my effort or not, I never learned, but if so, it was this, That the hyperemic condition consequent upon the saturation of the tissues of the body with alcohol, so strangulated the vascular and nerve supply as to cut off proper nourishment from the dental membranes, and indirectly establishing a retrograde metamorphosis of the nerve fibrils of the tooth, prolific also of neuralgia and often attended by wasting of tissue, as in decay, under such circumstances of impaired nutrition.

The mysterious force which inhibits itself in the sensitive protoplasm of a muscle is a phenomenon of no less interest to us than to the general practitioner.

The scientific investigations carried on by dentists during the last decade to put this profession, as well as medical men, in possession of agents which lessen the vital activity of pathogenic parasites, is evidence of an intellectual and progressive spirit most com-

mendable, as well as interesting and valuable to all practitioners of the healing art.

Why, then, let me ask, in view of all that our profession has achieved in this line of scientific work, and in view of our rigid system of dental education in all branches which general medicine requires of other specialists, are we prohibited from exercising this knowledge we are expected to possess, in the treatment of such systemic conditions as directly influence a dental lesion?

Brought daily face to face with all these exciting and retarding influences which you so well understand, must we forever lock the door leading out of the oral vestibule into the wonderful habitation of man's vital forces, and turn the key over to the family physician?

How many dentists, out of two hundred in this country of whom I recently asked the question, do you suppose answered that they prescribed constitutional treatment independent of the counsel or advice of the physician? The number is too few to stimulate me in carrying on the investigation any further.

But notwithstanding the majority of our profession, men whose views are worthy of the highest regard, express themselves as adverse to the practice of administering medicines themselves, I believe the day will come when it shall be considered within the province of the medically educated dentist to make recommendations for general physical ailments affecting the organs given into his care. There must always be a courteous recognition of the rights and duties of the physician, but *within a common sense limit.* I believe "it is better to experience the truth and enjoy its practical uses, even without a perfect knowledge of every theory, than to have full mastery of the theory but reap no benefits from it."

DR. J. TAFT said that it was in the experience of every practitioner of dentistry to have the question raised about the need of systemic medication as a necessary part of the treatment of diseases of the mouth and teeth. He could see no reason why a dentist should not modify by treatment the systemic conditions which hindered the success of his operations in the special line of the profession which he practiced. Why should he not treat the system, as well as the oculist or any other specialist who found the patient in an unfit condition for treatment for the diseases which their specialties would cover? The only reason this question should ever come up in regard to the dentist is because, unfortunately, he is not usually willing or able to diagnose or prescribe for physical conditions outside of the oral cavity. The ophthalmologist, the aurist, and every other specialist, having laid the foundation of their professional skill in the studies of general medicine, and turned their attention afterward to the specialty chosen, are fitted to, and unhesitatingly do, prescribe when necessary to change the conditions of the system, so as to favor the success of the contemplated operation. It is just as important that the dentist should be able to do this as any other specialist.

The diseases of the teeth are influenced by the diseased conditions of the other organs, and it is patent to every intelligent operator that his success in dealing with the teeth and mouth, the diseases of the alveolus, mucous membrane and antral cavities, will depend largely upon whether he can place the general system in the condition which will favor his success. Until there is a toning up and strengthening of the general system it is often worse than useless for a dentist to operate.

This is not all. There are signs of diseases which come under the dentist's eye more serious than merely a run-down system, and he should be able to recognize such peculiar conditions in a degree, and at least understand the relationship between such conditions and the disease in his peculiar domain, even if he prefer to refer the case to a regular practitioner or specialist in some other branch. The dentist should be able to refer the patient to the physician, giving a fair diagnosis of the case. If a physician received a patient from a dentist with only the message: "Something is the matter; find out what it is, and bring about a better state," he would not have a very high opinion of that dentist's standing as a specialist in medicine.

All our medical teaching is based upon the idea that for every specialist a general knowledge of the whole system of medicine is necessary. If it is not necessary for the dentist, why should he study anatomy and physiology? If it is not necessary, why should he study general pathology? It is necessary, for if he does his whole duty in his profession, he must need this learning to enable him to recognize and treat such general conditions. And more than that, it is necessary for the treatment of such diseased conditions as are recognized as belonging to his own specialty. The course of an abscess on the gums or necrosis of the jaw is the same as abscess on any other of the soft tissues and necrosis of any other bone.

DR. JOHN S. MARSHALL said that when a dentist did not feel able to treat systemically when it was necessary, it was the fault of our former faulty system of teaching in the dental schools. Until recently it was generally considered that a dentist had no need of the knowledge of general medicine. No one would go with a diseased eye to one who was not a graduate of medicine, and the feeling about dentists should be as it is about oculists. The dentist should be as able to treat general disease as any other specialist. He would be sorry if he could not prescribe for any condition which would hinder the success of the treatment for which the patient had come to him. Our field is the mouth, not merely the teeth. We must be able to treat systemic conditions which we observe indications of, and if we are properly educated so as to be able to diagnose them, why should we not?

DR. VIDA A. LATHAM said she would like to ask the Section a question bearing on the subject of the paper, and also upon professional ethics or etiquette. The question is, May a dentist suggest to a physician the necessity for a general line of treatment for disease of the general system? Dr. Latham related the case of a patient of hers, a young man about seventeen years of age, who was a hard student. His teeth had been sound and apparently good until he had an acute attack of pneumonia, when it was found that in the course of about four months, either because of the disease or of the treatment, cavities had appeared in nearly every tooth. When examination was made, the young man was so weak that he fainted in the office. Dr. Latham called the attention of his mother to the state of his teeth as well as to his physical condition, and recommended that he be put in charge of his physician, as she thought there was a serious danger of a relapse into pneumonia. The physician declared that he was in need of no further treatment. The consequence was as she had foreseen, a dangerous relapse, which leaves him at present with a second severe attack of pneumonia. Dr. Latham desired the opinion of the members of the Section as to whether she had done more or less than she should in sending the patient back to the physician for treatment.

DR. E. S. TALBOT said that the whole question of the relations of the dentist to systemic medication and to the general practitioner was affected by the faulty system of dental education, which is entirely wrong. He spoke of a

gentleman who held a position in a medical college and also in a dental college. The faculty of the medical college was pleased with him, but after the first year the faculty of the dental college declared that his lectures were too far advanced for the dental students; that they did not care to go so deep into things, and they were dissatisfied with him on that account.

The condition and the ambition of the dental student of to-day is little better and little higher than it was twenty-five years ago. He only cares in most cases, for just enough general medical and physiologic knowledge to get for him the diploma, and when he has secured that he forgets all that is not, in his opinion, necessary for his success as a dentist.

The specialists in other departments do not feel so. They generally have practiced a few years at least before taking up a specialty, and are competent to treat any diseased condition which presents itself to them. The dentist, on the other hand, could not diagnose diseases of the general system, and not being a graduate in medicine would not dare to treat them. For himself, he said that his education was all the wrong end front, as he had practiced before attending any college, and afterward had taken a medical degree. The proper course would be the exact reverse of this. First the medical degree, next the dental and afterwards the practice. There are comparatively few of his patients that he does not prescribe systemically for. He has no sort of hesitation in considering himself a part and parcel of the medical profession, and in such a case as Dr. Latham reports he would go to the family physician and point out to him the condition of the young man and his need of treatment. He often has cases where he sees conditions which make it necessary to send the patient to a physician.

Dr. Edgar Palmer said that he thought when a patient whose physical condition was such as to make it impossible for the dental work needed to be done came to the office, the dentist should prescribe what will alleviate the condition. There is a long list of troubles we do prescribe for, in preparing the system for the surgical operations in the mouth; but of course there is a common sense limit, and we should not take upon ourselves the responsibilities of the general practitioner.

Dr. John S. Marshall said Dr. Latham's question had not been fully answered yet. It was, Had she the right to go to the physician and tell what she had discovered? He thought she not only had the right, but that it was a duty.

Dr. George V. I. Brown agreed with the ideas which had been advanced, but thought that the education of dentists is improving and rapidly too. The dentist should know how to prescribe, but should be careful not to encroach on the field of the general practitioner, and so raise feelings of jealousy. More trouble comes to the physician's patients from not consulting the dentist than comes to the dentist's patients from not consulting the physician. If he had a patient who was not getting from his physician proper treatment, he would not hesitate to recommend a change of physicians. This would rarely be necessary, but sometimes it would.

Dr. Anderson said he saw no reason why the dentist should not apply all the knowledge he had in any direction for the benefit of his patients. If, however, the dentist neglects his own specialty to learn to practice general medicine, he would lose opportunities for advancement in his own special line.

Dr. W. H. Carson said that to discuss the question asked by Dr. Latham was equivalent to admitting that we were not specialists in medicine. If we are members of the medical profession, then of course we should consult with the family physician. Unfortunately, the majority of the dentists are not properly educated; they are not competent even to write a prescription. This should be changed; we should be physicians first and specialists afterward. Dentistry is looked upon by students as a more easily acquired profession than medicine, and those who are unable to acquire the latter feel that the former is within their reach, and thus it comes that the class of students at dental colleges are less highly prepared, educationally, and probably mentally, too. This should be changed; as much should be required of the dental student in the way of study as of the medical student and the requirements for matriculation to the dental student should be as high.

Dr. Taft regretted that the mass of the profession did not appreciate the necessity of a good general education as a foundation for the professional education. The low standard of education required for entering the colleges is not so much the fault of these institutions as it is the fault of the profession. Almost every student is sent to the college either directly from the office of a preceptor or at least has taken the advice of some dentist as to the step. This is where our responsibility is. If an unfit man asks your advice about studying dentistry, persuade him not to study it. Most of the dentists have very little knowledge of general medicine, yet if they would they could get this knowledge, and they should take hold and master it, and they would do so if they could appreciate the necessity of it. On the other hand, the medical profession do not appreciate the diseases of the mouth. This is because they have so many things in their course of study that the diseases of the special organs are not taught thoroughly in the colleges.

NEW DEVICES FOR CUTTING BONE.

Read at the Nineteenth Annual Meeting of the Mississippi Valley Medical Association, held at Indianapolis, Ind., Oct. 4-6, 1893.

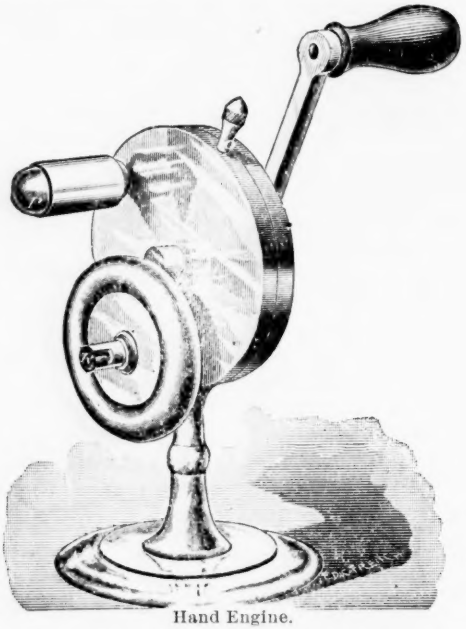
BY ALLEN DE VILBISS, M.D.

TOLEDO, OHIO.

It is the exception and not the rule that new devices are made perfect from their first conception; they require repeated changing to strengthen weak parts and shape them suitable for the work intended. One may develop a device so that there seems to be no need of farther change, but when put to a practical test some points are liable to be discovered wherein it can be made better. This has been my experience, and the instruments I will show you have been developed through a series of practical tests. I have used them first upon the dead, afterward upon the living. I could report case after case of operations made with them on the skull, maxillary bones, ribs, nasal bones, etc., but the time I wish to occupy with this paper will not permit me do so. I will only try to give you a few points in regard to their construction and how they are to be used. Many a useful instrument has been brought into bad repute for lack of a thorough knowledge of its technique. Not only is the reputation of the instrument sacrificed but the patient suffers the consequences. The time, I hope and believe, is not far in the future, when the surgeon will of necessity, have to be in possession of more than a theoretical knowledge of surgery. He should in the first place possess some inherent mechanical ingenuity, also a perfect knowledge of the technique of each instrument used; not only the knowledge, but he must have educated his hands how to execute that which he theoretically knows.

The chisel and mallet are simple devices, yet many surgeons do not know how to hold the chisel, so as

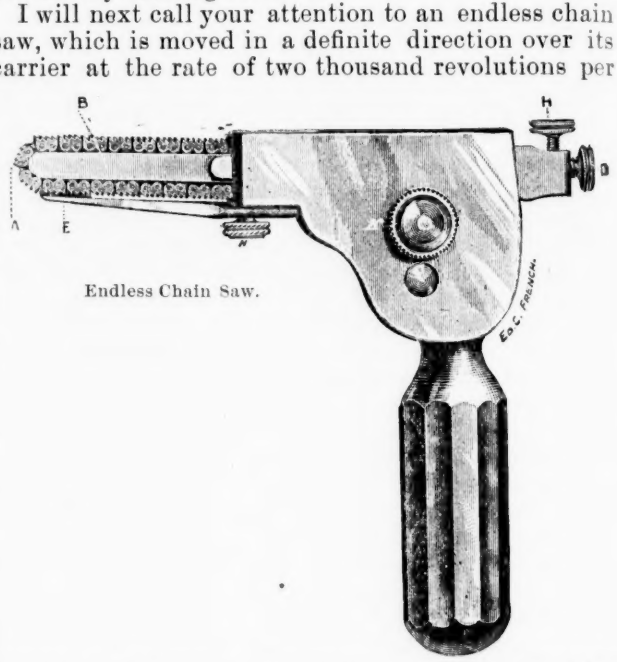
to do the greatest amount of cutting, with the least amount of jar to the part operated upon. This skill is only acquired by patient practice. The instruments that I will show you are not intended for the class of operators who have not the time or are not willing to study them sufficiently to be equal to any exigency that may arise. The objection has been offered to instruments that run with speed by transmitted power, that they are too complicated and



Hand Engine.

require too much time to understand them; too liable to get out of order. These objections will be retired just as soon as instruments of this class can be made more perfect in construction, and surgeons have sufficient time to become thoroughly educated in their use. Where is the man who would take up the flail and set aside the improved threshing machine of to-day; the jack plane and do away with the automatic planer. The answer comes that he can not be found. The most convenient plan for propelling instruments is a hand engine. I think the only objection that can be offered to it is, that it requires the help of an assistant. It is made of brass, nickel plated, its speed is produced by the use of two internal gears, and two spur gears, that run in oil to make it noiseless. Its bearings are positive, hence no chance to get out of order and is always ready to do its work if properly handled. It is better than the dental engine, or small electric motors that are now in use, as more power can be produced by it than either of them. It can be used anywhere as it is small and weighs but a few pounds. To operate it, place the finger of the left hand on the stationary handle, and the thumb around the post on top of the main cylinder, resting it on the abdomen, stand, operating table, or clamp it to a high stool, which is easily moved about to suit the convenience of the operator. The power is conducted by means of a flexible cable which is ten times as strong as the dental or surgeon's cable now in use, and unlike it, will not break when needed most. The person who is to run the engine should be instructed, before commencing an operation, to keep close enough to the operator to prevent stretching the cable, as he would impart his movements to the surgeon's hand; also to avoid greater angles than 45 degrees, as it would create friction in the angle from the cable on its sheath and make hard running; and last, but not least, that he can do no harm by turning fast but can by turning too slow.

I will next call your attention to an endless chain saw, which is moved in a definite direction over its carrier at the rate of two thousand revolutions per



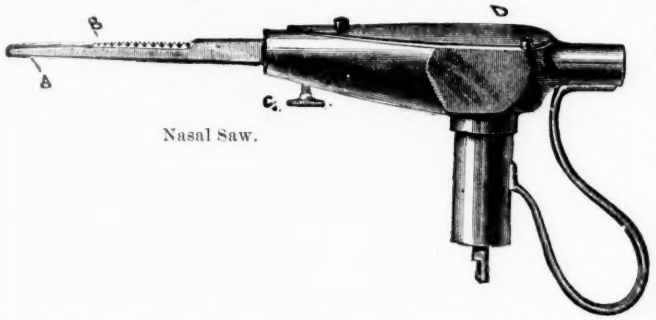
Endless Chain Saw.

minute. This saw is especially adapted for making exsections, trephining, cutting away portions of the maxillary bones, ribs, etc. To operate upon the skull, first bore through with this drill I show you, which is an ordinary twist drill with its cutting end ground as square across as possible, and leave a fixation point; it is fitted to the cable and provided with a slide and set screw, so that it is impossible to cut any deeper than is intended; if not deep enough at first setting of slide gauge, place it again and again, thus repeating the cutting until the dura is reached.

Nasal Dilator, with bands in position.

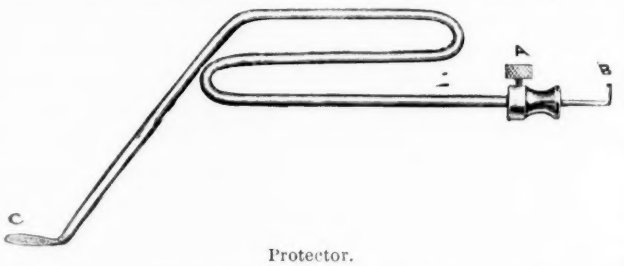
Then take the protector in the left hand, passing its foot piece in the opening and beneath the internal table. This can be readily done unless there are firm adhesions of the dura mater, in which case they will have to be broken up; then cut through with one or more strokes as may be needed, following up the saw and protecting the membrane by the protector foot as you cut. The stem of the protector is so slim, that it will follow in the slot the saw makes. The foot piece being in advance of the stem is conse-

quently always between the dura mater and its cutting edge; it matters not if you strike the metal foot piece as it will not injure the saw. By using the instrument in this way there is less danger in removing portions of the cranial bone than by any other method. The preparations necessary for the operation are the cleansing and cutting down upon the bone in any desired manner. The saw is prepared in the same way as any other instrument, by boiling it and placing it in a carbolized solution; or what is better just before using it, is to hold its point in gasoline (which is an excellent antiseptic), then by giving a few turns of the engine handle, the fluid is made to cover and wash all parts making it perfectly aseptic. After the operation the saw should be taken apart, washed, dried, and run in gasoline as before described. It is so constructed that it can be



Nasal Saw.

taken apart and put together in one minute's time. The shield passes beneath the cutting edge of the teeth, its outer edge being ground sharp so as to separate tissue that may come in contact with it. It also serves to gauge the depth the saw is to cut each time it is carried along the bone. In making the first cut the shield should rest on the bone, the next time on the bottom of the slot made by the first cut, and this repeated until the desired depth is reached. If in cutting away portions of the spine we are afraid of penetrating too deeply, we can make it cut less in depth by increasing the angle of the saw to the horizontal plane of that on which we are operating; by following this plan you may know exactly how

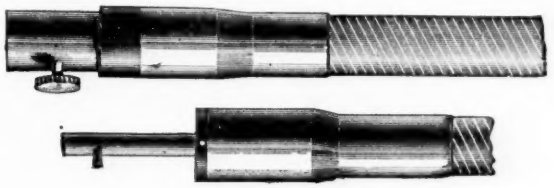


Protector.

deeply you are cutting each time. In removing portions of the inferior maxillary bone, clavicle or ribs, where there is to be a complete section taken out, I draw beneath the place to be sawed, a piece of sheet steel, which is about ten-thousandths of an inch thick and is easily bent, so as to be readily slipped under and drawn to its central portion. I usually use a strip from four to six inches long, so that it will serve as a retractor of soft tissues on each side of the bone and protect the tissue beneath it.

In the use of this saw the main points to be remembered are, first, to secure proper tension; to always draw the saw toward you when cutting, never from you, to not crowd it, and that the engine can not be turned too fast but can be too slow.

I will now show you a saw that although it can be used for many other purposes was intended for intranasal work; it can be attached to the cable and run fast enough that the to and fro movements will be two thousand per minute. It is simple in its construction, consisting only of a handle, pitman wheel, pitman bar, saw shield and one set screw. You will see that the saw moves in a grooved director its entire length which prevents it from injuring tissue at

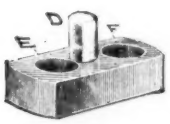


Cable.

its extreme point, also from getting out of the slot it is cutting. It can be reversed to cut up or down by loosening the set screw. The grooved director may be removed, then turn the cover to the right, lift out the saw and reverse or clean as may be desired. It is easily operated as we have only to move it in the direction desired to cut through, except in a broad surface, when it will be necessary to give a short to and fro movement, in order that the saw teeth may clean themselves, and prevent filling of the inter-

Drill with Gauge.

Nasal Dilator.



Templet.

spaces. Herein lies the trouble in using the ordinary saw; we can not give length of stroke sufficient to make it empty, without getting out of the slot we are cutting, or punching tissue with the end of the saw; and it will soon pass over the surface as though it was dull or had no teeth.

The teeth as I have them made, are different from any I have seen, being cut square across, with each alternate tooth on both sides cut out one-half their thickness, which leaves an open space for the material cut to fall out, and prevent clogging. They have the appearance of being set but are not. This saw has a stroke of seven-eighths of an inch, which is sufficient as a rule; when it is not, it can be doubled

by carrying it back and forth. Any one who has used small saws often, or tried to use the power saws as devised by Drs. Roe, Potter or Brown will appreciate the grooved director connected with this saw, and it is this part and the form of the teeth that I claim to be new. I have had a few cases where there was not room in the nasal cavity to use a saw and I made an opening with a trephine; this one that I show you can be used to make this opening, also for the same purpose as Dr. Curtis and Dr. Jarvis use theirs; it differs from them, as the external part can be turned to the right and slipped off, thus making it an antiseptic instrument; also the end of the crown is made knife-like, the same as the Foster wood bit except there is no part cut out, it forming a complete circle serving as a fixation point, thus preventing it from running off to one side like those with teeth on.

I notice that in Dr. Jarvis' article (in Burnett's System of Diseases of Nose and Throat), that he says he has recently modified and improved his drill by simply surrounding the cutting facet by a knife-like ring, the edge of which may be either interrupted or unbroken. I use the cylinder on a single lipped twist drill which I devised for this purpose. I find it empties better than Dr. Jarvis' with its opening on the side, or Dr. Curtis' with its opening at the end of the cylinder. It is essential to the successful use of cutting instruments in the nose, to have some means of positive continued nasal dilation, and I hope you will pardon me, when I say that I have devised another nasal dilator and I think it a good one. Whether you will agree with me or not in this is a matter of the future, after you have tried it, as we have no right to recommend or condemn until after we have made a practical test. The objection to wire nasal dilators is that they do not hold the vibrissæ in the vestibule back; blood flows and obscures the light; this one you see is flat, and in shape corresponds to the internal lateral shape of the vestibule; it may be used without the rubber bands for exploratives purposes and with them for operations.

The drills spoken of in connection with the chain saw, are made in two sizes, with movable gauges, and will be found to be useful in operations of the mastoid frontal sinuses, antrum of Highmore and in cases of osteomyelitis, etc. It is true in making the mastoid operation, the use of the drill has been condemned, but the reason for it is this; that until now there has been no convenient way of running with speed, a drill large enough, with precision as to depth, to make a sufficient opening. I drill one hole through the cortex; if not large enough, with the aid of a templet I drill another beside the first; then use the second size drill which has a gauge large enough not to enter the first opening, or in some cases it may be preferable to complete the opening into the antrum with the gouge. In the use of the instruments just described, speed is necessary in order to do perfect work, and it does not increase the danger. There is not a dentist who would be willing to return to the use of the hand burr, or consider it safer than the use of one connected with the dental engine. Neither will the surgeon be willing to set aside instruments with speed, after becoming accustomed to using them.

Blank Applications for membership in the ASSOCIATION, at the JOURNAL office.

NECROLOGY.

Dr. N. L. Lusk of Penn Yan, N. Y., December 4.

Dr. John Rix of Fort Madison, Iowa, December 14.

Dr. Eli Dudley Pocock of Shreve, Ohio, December 16.

Dr. Stephen Herrick of Muscatine, Iowa, December 16.

Dr. Joseph R. Hoffman of Morriston, N. Y., December 11.

Dr. Alonzo Spofford Ball of New York, December 20, aged 93.

Dr. William B. Carpenter of Leavenworth, Kan., December 16.

Dr. Henry Ristine of Cedar Rapids, Iowa, May, 1893. Dr. Ristine was the first to report a case of trichiniasis in the United States.

Dr. William Bushnell, aged 93 years, died at his home in Mansfield, Ohio, on the 13th inst. He came from Hartford, Conn., in 1828. Dr. Bushnell was for many years Censor of Cleveland Medical College, and a member of the Ohio and AMERICAN MEDICAL ASSOCIATIONS.

Dr. William Lobschied, died at Youngstown, Ohio, of pneumonia. Dr. Lobschied was sent by the Government at one time as Special Commissioner to China. He had compiled a Chinese dictionary and was a frequent contributor to current medical journals.

Dr. S. Guttman, editor of the *Weekly Medical Journal*, died at Berlin on December 22, of influenza. He had, also, since the death of Dr. Boerner, edited the Medical Directory of the German Empire. This Directory also contains an account of all the universities in which the German language is used in Austria and Russia.

Dr. James E. Wendel of Murfreesboro, Tenn., was one of the oldest physicians in the State, who, beginning in early manhood, practiced with distinguished success almost to the day of his death. He was an accomplished gentleman, a devoted Christian and a physician whose memory will be sacred in many homes. He leaves a life record which his family, his profession, his church and the community in which he labored may well delight to honor.

Dr. M. C. Drake of Ladoga, Ind., died in San Francisco, Cal., Dec. 17, 1893. He was a victim of Bright's disease, of which he was conscious, and he resigned practice a year or two ago and knew his time was short.

He was a man of profound medical learning. He was graduated at Jefferson Medical College, Class of 1857. Served three years as surgeon in the late war and after this was graduated at Bellevue Medical College and in 1881 attended the Polyclinic of New York city.

He had an excellent groundwork in the Greek and Latin languages. He was a quick active man and did a large and lucrative business here and leaves his two children, Edward Drake of Ladoga and Mrs. Ryan of Delphi, Ind., in comfortable circumstances.

He was once a member of the AMERICAN MEDICAL ASSOCIATION, and was a thirty-second degree Mason. W. F. B.

Dr. Dewitt C. Patterson of Washington, D. C., a valued member and one of the trustees of the AMERICAN MEDICAL ASSOCIATION, died recently at his home in that city. His funeral occurred in Washington December 21.

The pallbearers were Dr. W. W. Godding, Dr. W. W. Johnston, Dr. N. S. Lincoln, Dr. W. H. Lovejoy, Dr. James Kerr, Dr. J. W. Bulkley, Prof. J. W. Chickering and Mr. George W. Deering.

Mrs. Patterson and the only son, Dr. A. C. Patterson, accompanied the remains to Cleveland, where they were interred. Dr. Patterson was much beloved by all the members of the Board, and will be greatly missed. A sketch of his life will appear in our next issue.

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MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa., sending him a certificate or statement that he is in good standing in his own Society, signed by the President and Secretary of said Society, with five dollars for annual dues and subscription for THE JOURNAL. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership. On receipt of the above amount the weekly JOURNAL of the Association will be forwarded regularly.

All members of the Association should send their Annual Dues to the Treasurer, RICHARD J. DUNGLISON, M.D., Lock Box 1274, Philadelphia, Pa.

SATURDAY, DECEMBER 30, 1893.

PROFESSOR SENN'S GREAT GIFT TO THE MEDICAL PROFESSION.

The noblest deeds require nothing but simple language: they are spoiled by emphasis. It is insignificant matters that stand in need of high flown words, because it is the expression, the tone, and the manner that alone give them effect.—La Bruyère.

PROFESSOR NICHOLAS SENN has given his great collection of medical books to the Newberry Library.

Words can not add to the importance of the fact thus chronicled.

The value of the gift to Chicago, and to the medical profession, can not be estimated in money, for as MILTON says: "A good book is the precious life blood of a master spirit embalmed and treasured up on purpose, to a life beyond life." "How much," says BURTON, "are all we bound that are scholars, to those munificent Ptolemies, bountiful Mæcenases, heroical patrons, that have provided for us so many well furnished libraries, as well in our public academies in most cities, as in our private colleges? . . .

"*O quam te memorem (vir illustrissime) quibus elogiis?*"

PROF. SENN has for many years been engaged in the gathering of this magnificent collection, but for the most part the gems of the library were obtained by purchase from the estate of PROFESSOR WILLIAM BAUM, Professor of Surgery, University of Göttingen. He was one of the founders of the German Congress of Surgeons, and for fifty years had been collecting works on anatomy, physiology, surgery and the old classical authorities. PROFESSOR BAUM died in 1886, and his estate offered the library for sale. The wish of PROFESSOR BAUM was that the German Congress of Surgeons should purchase the library, but that organization did not see their way clear to meet the expenses. The administrator of his estate publicly stated that PROFESSOR BAUM had spent over forty thousand dollars in its purchase. The administrator offered the library to various parties, and the Royal Library of Berlin offered an almost fabulous price for a number of antiquarian volumes contained in the collection, but the administrator, following the wishes of PROFESSOR BAUM, refused to separate the books, and announced that it would be sold by auction. This coming to the ears of PROFESSOR SENN, he at once secured it by making a partial payment, and then withdrew it from sale. The books were shipped to PROFESSOR SENN, then in Milwaukee, in fifty-two cases, constituting an entire car load.

Beside the works on surgery, gynecology and ophthalmology in the BAUM library, the collection contains a full set of Virchow's Archives, several single volumes of which are now valued at $50 each. Langenbeck's Archives, Jahresbericht der Gesund. Medicine, Cannstatt's Jahresbericht, Praguer Vierteljahreschrift, and the Deutcher Chirurgie. (The continuation of these periodicals from time to time by the terms of the gift, the Newberry Library must hereafter procure as published.) To the foregoing, PROFESSOR SENN has added nearly all the modern works on surgery, which includes gynecology, and allied branches. He will retain his working library of modern works, and a few old favorites to which he is naturally attached. The first thought of this action was suggested by MRS. SENN, who appreciating the value of the library, pointed out the insecurity of a private house from fire and other casualties, and PROFESSOR SENN concluded that he would place the collection at the disposal of the profession. There are thousands and thousands of pamphlets, ancient and modern, and atlases almost numberless. All of these go with the collection, the money value of which is about fifty thousand dollars.

When PROFESSOR SENN came to make the formal tender of the transfer of his books, he had a pang of regret, but DR. POOLE the librarian, consolingly said that the Newberry was only five minutes walk from his house and he would keep them for him. No bibliophile can part with his books without regret, and yet in this action PROFESSOR SENN has built himself a monument more enduring than bronze or marble, for generations of medical men, long after those now on the stage shall have passed away, will draw inspiration and wisdom from the "SENN COLLECTION," in the Newberry Library, and as often with gratitude reflect on the noble generosity of its distinguished founder.

THE OMENTUM.

The American Journal of Obstetrics for December contains a paper read before the Pan-American Congress by DR. JAMES F. W. ROSS of Toronto, on "The Omentum and the Rôle it plays in Operative Work upon the Abdomen." It is strange that an organ so important to the surgeon should be so little studied

and its function so little understood. It may be that its long-suffering nature—permitting itself to be lacerated and imposed upon in so many ways by the hands of the operator—has led to its neglect, except so far as the danger of hemorrhage is concerned. The vessels once tied and the lacerated portions removed, the surgeon thinks no more of it. Indeed, in the majority of text-books it is passed over with the meager statement that its probable function is to protect the viscera and facilitate the movements of the coils of intestine.

That it must have some other use, the immense lymphatic and blood supply would seem to indicate. The membrane also reaches its highest point of development in the mammalian group, though it is interesting to note that it is only slightly developed in the whale. As DR. ROSS points out, if it had been simply intended for the preservation of heat, one would expect to find a full development among the cetaceans, as well as the other members of the family.

TAIT, as quoted by Ross, says that in some patients suffering from dropsy due to peritoneal papilloma, the effusion may be made to come and go as the patient is allowed to move about or is confined to bed. The interesting part of his observation is that in those cases in which the effusion can not be so influenced, the omentum will be found to be more or less involved. DR. ROSS adds the account of an interesting case in which he removed the omentum about six inches below its attachment to the stomach Some time after the operation, the patient developed pain in the abdomen and a cystic collection in the remains of the omentum which was tapped. The tapping was followed by suppuration in the cyst which finally discharged and the patient recovered. These observations would rather indicate that, in some manner, the omentum regulates the amount of fluid in the peritoneal cavity.

An important function of the omentum, and which must be apparent to every one who has opened the abdomen of a patient suffering from suppurative disease, is its attachment to the viscera in order to limit the purulent collection. As the author of the paper under consideration aptly remarks, "It is like a man-of-war ready to sail to any port in which there is impending trouble." Through its great lymphatic supply it must possess great power of absorption and neutralization of the pus products in addition to the merely mechanical action of a dam.

Several interesting questions are raised by DR. ROSS—Does the vast network of blood vessels contained in this little-known membrane serve to hold the surplus blood during the process of digestion? Has it any special function in connection with the blood supply of the stomach, as would seem indicated by its attachment to that organ? These are important questions for the physiologist to solve, but the point most concerning the surgeon is the facility with which the immense quantity of serum thrown out after an abdominal operation is taken care of by means of the blood and lymphatic supply, and the lesson to be learned would appear to be the necessity for care lest it be injured and its power for good thereby impaired. It would seem important that it be preserved in every way possible on account of its action as a safety-valve.

DR. ROSS has opened up a field of inquiry which will be of much interest and advantage to the surgeon and physician alike.

INEBRIETY QUESTION IN ENGLAND.

In striking contrast with the quack cures, revival excitements, and sensational efforts to reach the inebriate in this country, may be placed the scene enacted in the office of the Home Secretary of the English Government at London recently. In 1879 Parliament passed a law for the organization of asylums for the treatment and control of inebriates. After several years experience, a Parliamentary committee made an elaborate examination of the workings of the act, and urged its continuance with some changes.

The British Medical Association appointed a committee to formulate these changes, and urge them on the Government. DR. NORMAN KERR was chairman. This committee was joined by a similar committee from the Society for the Study of Inebriety; the British Temperance, and Woman's Association, and other Societies, together with a number of leading physicians of both Army and Navy, and also members of Parliament and distinguished London physicians.

The amendments most urgently asked for were; 1, for non-criminal inebriates, (*a*) power to seclude and detain for curative treatment, (*b*) provision for the poor and persons of limited means, (*c*) the reception and curative detention of voluntary patients without appearance before justices, on a written agreement (as in America) attested by a commissioner or clerical incumbent, (*d*) similar provisions for inebriates in opium, chloral, and other narcotic drugs, (*e*) power to licensee to appoint a permanent deputy, (*f*) separate retreats for the sexes, (*g*) power to licensee to re-convey an escaped patient back to the retreat direct, (*h*) power to guardians to detain pauper inebriates or to pay for their curative detention elsewhere; 2, for criminal inebriates, power to magistrates to commit to special hospitals or reformatories.

DR. FARQUHARSON, M. P., stated the object of the meeting was to have better legal control of a class of persons who were both helpless and hopeless in most cases. DR. KERR followed as a representative of the British Medical Association (with its 16,000 members) pointing out the failure of the present system

of dealing with inebriates. Of the 245,000 men and women committed yearly in England, fully 150,000 were for drunkenness or crimes growing out of this state. Of the number, over 80 per cent. were females and 60 per cent. males. About 7 per cent. of this number were committed from 100 to 600 times for the same offence. This was evidence of the wretched failure of the present means. The physical aspect of inebriety had been ignored and this was the result. The associations which were represented on this occasion believed that drunkenness was the manifestation of a diseased mental condition, and should be treated as such; also that all appeals to the emotions or fears by legal methods were useless; therefore they asked the aid of the Government for means to apply the measures recognized by science.

Remarks were made by several persons on the same line, urging the needs of physical care and treatment. The Home Secretary in reply, promised to introduce a bill with the prepared changes to the next Parliament. He expressed his firm belief in the connection between inebriety and crime, and that inebriety should be regarded rather as an effect than a cause of bad social conditions. Legislation to remove the causes should be encouraged. It was evident that the present methods were neither curative or deterrent. The time has come when we must recognize habitual inebriety as standing on the same level as insanity, with the same conditions of irresponsibility, and attended with equal if not greater dangers to the community.

The question of asylums for the indigent and the practical way to establish them was mentioned, and the meeting ended. It is evident that our English brethren are approaching this subject from the only true and practical side; by the means of legal restraint and medical care and treatment in organized asylums for this purpose. For several years the British Medical Association have had a committee on the care and treatment of habitual drunkards. This committee have advised certain legislation, and made collective statistics of various phases of the subject, and in other ways sought to instruct the profession on the question generally. Several reports have been issued of much interest bearing on the prevalence and nature of inebriety. This committee has been made up of the most eminent members of the profession, and has taken in a quiet way a leading part in the direction of public sentiment on this topic.

It is unfortunate that the profession in this country have been indifferent to this topic, and permitted the most radical views and measures urged by incompetent men to direct public opinion. As a result, we have no reliable statistics, and the most confusing medley of theories and means for treatment. No wonder the charlatan finds this a rich hunting ground for fortunes gathered entirely from the ignorance and credulity of the people.

The entire question of alcohol and inebriety in this country is one of the most practical medical fields of research that is coming into prominence. But it must be studied along scientific lines, free from preconceived theories, and with the central object of finding facts irrespective of all possible conclusions that may follow. Our English brethren have begun the work, and have set an example for us to follow.

MANHOLES AS NUISANCES, THE CONTINUANCE OF WHICH MAY BE ENJOINED.

A municipal government, though invested by statute with plenary powers over the subjects of streets, sewers, drainage, water supply, and sanitation, has no right to create and permanently maintain a nuisance dangerous to health and life, which nuisance consists of openings, such as "manholes," in a sewer located in a public street contiguous to the dwelling of a citizen, the manholes being allowed to emit poisonous gases in large quantities through perforated covers placed over them. This is true, at least, says the Supreme Court of Georgia in the case of the City of Atlanta v. Warnock decided Nov. 9, 1893, where the dangerous character of the nuisance results, in all probability, not from defects inherent in the general system, but in failing to adapt it to local conditions, such as a steep grade in the particular street in which the unwholesome sewer is constructed and maintained. And there is no abuse of discretion in granting a temporary injunction, in such a case, enjoining the city "from continuing said manholes in such condition as to allow the escape of noxious gases." But whether a nuisance attributable to a mistaken exercise of the legislative power of a city in adopting an unsafe or unwholesome system of sewerage is the subject-matter of injunction, may be questioned.

MATTERS JOURNALISTIC.

There are some matters in relation to this subject that deserve attention. The "special" correspondent of the *British Medical Journal*, in the issue of December 2, says:

"There are two fundamental curses under which the profession in America labors:

"1. The lack of independent medical journals controlled and issued by medical men for medical purposes. At present almost every journal is owned by some publishing or manufacturing concern, which of course publishes it for purely commercial purposes. It is easy to see that in such cases the advertising pages seek to control the reading columns. If an editor shows independence, and refuses to permit the commercial debauchery of his columns, woe be to him!

"2. Coöperating with—nay, bound up with—this

first misfortune, is the second—the lack of a National or unitary organization. It at present seems to be impossible to arouse in the professional mind the recognition of the need of professional unity. Without professional unity we can not speak to the people, criticise abuses, or encourage faint and sporadic attempts at virtue. We have no singleness or strength of voice, journalistic or organic; and from the multiplicity of non-coöperating jealous societies, together with the multiplicity of trade journals, our professional disorder of speech is either a sorry laryngismus paralyticus, or a sorrier laryngismus stridulus, while the omnipresent quack and patent medicine men and the 'likes of them' crowd every farm with nasty advertisements and huge bulletin boards, and bribe to silence or a worse subserviency every secular newspaper of the continent."

It is understood that our esteemed contemporary has, by a circular letter addressed to various prominent members of the medical profession in America, offered to come to the rescue of our afflicted profession and, like another CHEVALIER BAYARD in the field or HORATIUS at the bridge, deal defiance and death to our enemies whom we are too weak to assail, for the trifling sum of eight dollars per annum. So far as our own feeble efforts may avail to welcome this valiant ally to our camp to assist us in combating the evil powers, we cheerfully extend them, but in our judgment the wrongs complained of may be easier righted by avoiding abuse of American medical journalism and American medical journalists. Let us elevate them, dear contemporary, by our good example. The JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION has no "reading notices," and while it welcomes legitimate advertisements, it keeps them in the columns devoted to that purpose, and it is sure that advertisers have more respect for the JOURNAL because its editorial columns never contain them.

But we read another disparaging fling at American medical journalists in the circular of a home contemporary. We have received a circular from New York dated December 12, which among other interesting items of information says:

"We believe that for the first time in the history of American medical journalism there is presented a journal at once independent and free from all mercenary influences. That such a publication exists now in the *American Medico-Surgical Bulletin*, is due to the liberal-minded and far-sighted policy of a syndicate of wealthy men, who clearly recognize the need of our day in this regard."

After this attack on American medical journalism, the circular further says:

"2. The *Bulletin* will regularly publish, twice every month, a full synopsis of the proceedings of the New York Academy of Medicine, *the most important deliberative body of physicians and surgeons on this continent*, which synopsis will include stenographic reports of *all* the papers read at the frequent meetngs of the Academy and its various special Sections (on General Medicine, Surgery, Neurology, Obstetrics and Gynecology, Genito-Urinary Surgery, Pediatrics, Orthopedics, Laryngology and Rhinology, Ophthalmology, Otology and Public Health). About one hundred such meetings will occur in 1894." (Italics ours.)

The Section on MODESTY appears to have been inadvertently omitted from this comprehensive program.

We had before suspected that some members of the Academy secretly aspired to national jurisdiction, but this is the first official announcement of it that has fallen under our observation. Or, is there a possibility that the Academy never authorized the statement?

The *Bulletin* seems to be prosperous, for its circular says: "*Already over fifteen thousand physicians and surgeons in all parts of the United States have become subscribers to the Bulletin.*" (Italics theirs.)

The affidavit editor was evidently in when this was written, but will he swear to it?

The management seem themselves to be harassed with doubts on the subject for they say:

"Should your confidence in us and in our enterprise be sufficient guarantee, you will greatly please us by filling out that part of the inclosed postal card ordering a year's subscription (in case you are not already a subscriber)."

We have retained the postal card as a souvenir of the full fledged enterprise of "the only" journal worth mentioning as an able, fearless and highly scientific publication, absolutely untrammelled by any of the selfish considerations that govern the remaining medical publications in this sinful and wicked world.

CORRESPONDENCE.

Treatment of Uterine Fibroids.

To the Editor:—In a recent editorial and correspondence in the JOURNAL, the treatment of uterine fibroids was discussed. In the correspondence, Dr. Franklin H. Martin called your attention to the omission of his method of dealing with uterine fibroids by ligating the uterine artery and the broad ligament through the vagina. Dr. Martin's method avoids the dangerous hysterectomy.

I would like to call your attention to an operation which I devised for the purpose of avoiding the removal of the uterine fibroid, and which you also omitted to mention in your editorial. My operation consists in removing the tubes and ovaries, and then ligating the uterine artery as it courses along the sides of the uterus. The uterine artery should be ligated nearly as far as the internal os. I did the operation first in November, 1892, on a patient with a large uterine fibroid which could not be removed without almost certain death to the patient. The myoma was so large that it could not be accommodated in the pelvis, and reached to a point half way from the pubic crest to the umbilicus. In three months it had shrunk to one-half its original size, and her severe hemorrhage had almost totally ceased. Six months after the operation it was only one-quarter of its original size, and *now* the uterus is only about twice its normal size. She is at present in perfect health. I have since performed the operation twice, and Dr. Waite recently performed it once. So far every case has improved.

The total removal of myoma is still a hazardous operation. But the ligation of the appendages will check about one-

third of the uterine blood supply. And the ligation of the uterine artery as it courses along the sides of the uterus from fundus to neck, will cut off as much blood supply as is compatible with the life of the uterine tumor. My operation was performed in the same month, November, 1892, as Dr. Martin's. Both were done independent of each other. They are the only means by which the blood supply of the myomatous tumor can be controlled. It is known to observing gynecologists that uterine myomata have not a very vital growth. They often become absorbed without any treatment. A shock, attendant on opening the abdomen, may induce a myoma to atrophy. Pregnancy frequently causes them to disappear during and after the puerperium. A slight change in the blood current will many times be sufficient to reduce a myoma. But when a definite nourishing blood current is suddenly cut off together with functionating tubes and ovaries, as in the operation I offer, it will be frequently sufficient to *cure* the myoma by atrophy. Hundreds of myomata have been cured, at least symptomatically, by ligating off the tubes and ovaries, but my operation proposes to cut off a supply of blood much greater than the ovarian artery. In fact, one can cut off as much blood supply from the myoma as his judgment dictates, by ligating the artery along the side of the uterus toward the internal os. A woman is more shocked and mutilated by the removal of the large uterus than she is by removal of the appendages, and the additional manipulation necessary to the ligation of the artery along the uterine sides is very little.

The operation I propose will not suit all cases to avoid abdominal hysterectomy. The operation which Dr. Martin offers will not fit every case. But by judging each case on its individual requirements, I believe that one of the two operations which look to the control of blood supply will fit many cases which previously submitted to hysterectomy—with much risk. We hope your editorial, which notes that the only real curative method is the removal of the tumor, will be superseded by the operation which cures the tumor *without removal*—by atrophy. Cut off the blood stream that feeds an unnecessary district and it must check further growth and result in shrinkage. It should never be forgotten that an unlimited ligation should not be practiced, as gangrene may follow.

I have noticed during the past year, while examining fibroids per vaginam and by abdominal section, that some portion of the tumor was being fed by an enlarged and dilated artery, e. g., one of the ovarian or one of the uterine arteries were considerably enlarged. The most frequent (on account of opportunity and accessibility) I found was one of the uterine arteries excessively enlarged. I would often find on one side of the uterus (the side of the most enlargement), the uterine artery dilated and beating almost like the femoral. The plan of the operation is to ligate that dilated artery, which is growing a tumor, whether it be ovarian or uterine.

Respectfully,

F. Byron Robinson, Chicago.

Analyses of "Cerebrine" and "Medulline."

To the Editor:—At a meeting of the Chemical Section of the Chicago Academy of Sciences, held two months ago, Prof. M. Delafontaine of this city, presented some facts regarding tests of the substances known as "cerebrine" and "medulline," and somewhat more in detail than in the note in the Journal of August 26. This work having been criticised in certain quarters, both as regards methods and conclusions, I thought it worth while to make a new examination of the question, avoiding as far as possible sources of error. I accordingly obtained from a well-known Chicago druggist a bottle of each of the two Hammond preparations which I tested, with results agreeing fully with those of Prof. Delafontaine. These tests I considered, however, only as preliminary to more extended ones. For the fuller tests I secured through one of our leading wholesale drug houses four bottles of "cerebrine" and four bottles of "medulline" direct from the Columbia Chemical Co., 90 South Fifth Ave. These bottles came packed in a small box which was handed to me unopened. Each small blue bottle was in a dark red pasteboard carton, labeled, "Sterilized Solution of "Cerebrine" and "Sterilized Solution of Medulline," with the name "William A. Hammond," in *fac simile* printed diagonally across it in red ink. The cartons had not been opened, which was shown by the unbroken labels. The bottles themselves were sealed with some kind of white wax, apparently paraffine, and were each found to contain about four cubic centimeters of a sweetish liquid consisting mainly of glycerine and alcohol.

I carried out special tests as follows:

The contents of two bottles of "cerebrine" were poured into a small flask and extracted with pure benzol in two operations, using twenty cubic centimeters each time. The united extracts were evaporated spontaneously; a small oily residue left was treated with water, warmed on the water bath and used for tests. A portion of this aqueous mixture gave a strong test for nitrates with diphenglamine and sulphuric acid; another portion gave the nitrate test with ferrous sulphate and sulphuric acid. Another portion failed to give the *nitrite* test with naphthylamine and sulfonitic acid. The remainder of the aqueous liquid was saponified with sodium hydroxide and then tested for nitrates and nitrites, both of which were found in decided quantity. The benzol, sodium hydroxide, sulphuric acid and acetic acid used in these tests were pure and free from even traces of nitrates or nitrites, as I found by careful special examination.

The reactions given above show the presence of an organic nitrate (not nitrite) in the liquid, and the behavior on saponification is strongly suggestive of nitroglycerine. The fact of the solubility of this nitrate in pure benzol is important.

I next dissolved the contents of one bottle of "cerebrine" in ten cubic centimeters of water and made tests for alkaloidal bodies. With solutions of mercuric-potassium iodide and iodine in potassium iodide, no precipitation whatever occurs. Platonic chloride, picric acid and phosphomolybdic acid give a very slight haziness; with mercuric chloride a marked cloudiness is produced. These tests I consider sufficient to show the absence of animal or other alkaloids.

Four bottles of "medulline" were next mixed and extracted with pure benzol; an oily residue remained on evaporation of the benzol. This residue was dissolved in alcohol and treated with ammonium sulphid. A finely divided precipitate of sulphur settled out. The excess of ammonium sulphid was removed with pure zinc sulphate, and the filtered liquid tested for nitrites; a strong reaction was obtained. This test, like those given above for the "cerebrine" is characteristic of nitroglycerin and strengthens those obtained in my preliminary tests. Taking all tests into consideration, I am of the opinion that the preparations, "cerebrine" and "medulline," contain nitroglycerin as their active ingredients, as stated by Delafontaine and others.

Yours truly, J. H. Long.

Northwestern University Laboratories.

Uterine Fibroids.—A Correction.

To the Editor:—In my letter in the Journal of Dec. 23, 1893, two errors occur, caused by carelessness in copying

the original manuscript. The errors are important, inasmuch as they involve dates which make my articles appear as having been published subsequent to Profs. Gottschalk's and Küstner's, when in fact my articles were published several months before theirs. My letter makes Prof Küstner's article in the *Centralblatt f Gynäkologie* appear Aug. 19, 1892, when the date should have been Aug. 19, 1893, and Prof. Gottschalk's article which reads in the letter Sept. 30, 1892, should have been Sept. 30, 1893.

Yours very truly,

FRANKLIN H. MARTIN.

BOOK NOTICES.

The Essentials of Chemical Physiology for the Use of Students. By W. D. HALLIBURTON, M.D., F.R.S., pp. 166. London: Longmans, Greene & Co., Chicago: The W. T. Keener Co. Price, $1.50. 1893.

This book has for its object that of supplying the student with directions for examining practically the most important of the subjects included in chemic physiology.

It is concise and comprehensive and an excellent manual for advanced students.

An Outline of the Embryology of the Eye, with illustrations from Original Pen Drawings by the Author. By WARD A. HOLDEN, A.M., M.D. Pp. 69. New York: G. P. Putnam's Sons. 1893. Chicago: The W. T. Keener Co. Price, 75 cents.

This monograph is the Cartwright prize essay for 1893. The drawings represent the development in the eye of the chick embryo and the pig embryo, on the days stated. Although less comprehensive than the section on the development of the eye in Minot's "Embryology," yet it has its field of usefulness, and doubtless will be appreciated. The writer seems not to have been acquainted with the work of O. Schultze, on this subject, or that of Mihalkovics, but in the main the work shows careful and original observations in this interesting field.

Manual of Physical Diagnosis for the Use of Students and Physicians. By JAMES TYSON, M.D., Professor of Clinical Medicine in the University of Pennsylvania, etc. Pp. 241. Second edition, revised and enlarged. Philadelphia: P. Blakiston, Son & Co. 1893. Price, $1.50.

This work is carefully written and contains all the recent additions to the subject. The bacteriologic examination of sputum for tubercle bacilli and the pneumococcus are given *in extenso*. The chemic examination of gastric contents are given, and directions for making a postmortem examination for purposes of pathologic diagnosis and the normal weight of the different organs are given. The book is an excellent one, and although much smaller than some of the more elaborate works, will be found very useful.

Essentials of Practice of Medicine. Arranged in the form of questions and answers, prepared especially for students of medicine. By HENRY MORRIS, M.D., with a complete appendix, on the examination of urine, by LAWRENCE WOLFF, M.D. Third edition, revised and enlarged by some three hundred essential formulæ selected from the writings of the most eminent authorities of the medical profession. Collected and arranged by WILLIAM M. POWELL, M.D. Pp. 374 and appendix 66. Philadelphia: W. B. Saunders. 1894. Price, $2.00.

The rather elaborate title tells the scope of the book, and for those who like question-compends this is one of the best of its class.

The Physician's Visiting List for 1894. Forty-third year of its publication. Philadelphia: P. Blakiston, Son & Co.

This old and well-known visiting list has retained the characteristics which have made it so popular in the past, and in addition there will be found a posological table by Dr. Gould which gives the decimal dose of all the ordinary remedies. Another table gives the comparative thermometric scales, and there is much useful information compressed in small space. Among the many excellent lists on the market we recall none that are superior to this.

New Truths in Ophthalmology as developed by G. C. SAVAGE, M. D., Professor of Ophthalmology in the Medical Department of the University of Nashville and Vanderbilt University.

This attractive title covers a multitude of papers which have been published (the most of them within the past year) in medical journals.

It is evident that the author's conception of a scientific truth differs from the generally accepted definition. An observation does not become a scientific truth because one man has demonstrated the fact "to his own satisfaction;" a theory does not become an established principle because one man believes it to be true. All observations must be verified and indorsed by other capable and competent investigators before they can be accepted as new truths. And the author would have done well to postpone the publication of this book until he had received these indorsements; for we are liable to make mistakes, and even Dr Savage is not infallible. When, for instance, he undertakes to develop as a new truth in ophthalmology his doctrine of "the harmonious symmetric action of the oblique muscles in all cases of oblique astigmatism." Anybody familiar with the rudiments of physiologic optics can see the fallacy of his arguments, the whole doctrine resting on false premises.

Man an Organic Community; being an exposition of the law that the human personality in all its phases in evolution, both coördinate and discoördinate, is the multiple of many sub-personalities. By JOHN H. KING. In two volumes. London: Williams & Norgate. New York: G. P. Putnam's Sons. Chicago: The W. T. Keener Co. Price, $4.50. 1893.

This book is an elaborate presentation of the author's views on the origin and nature of the human personality; the phylogenic stages, the phylogenic sexual forms; the coördination of faculties and functions. The forms of mental and organic coördination as shown in the normal forms, i. e., the active wakeful state; the state of quiescent repose; the state of reverie; the dream state; the state of somnambulism; and induced mental and physical states. The abnormal discoördinate states are then fully and exhaustively considered and the whole concludes with an exhaustive bibliography. As a scientific treatise it is exhaustive and complete, and the theories advanced of some of the complex phenomena discussed are entertaining and plausible. At all points the author rather successfuliy brings forward observed facts to sustain his conclusions, and some well-known facts receive a new illumination from the author's method of treatment.

A sample of the author's style may be useful to our readers:

We thus become conscious that the lowest elements in the organism are the plasma and the cell, and that as independent organisms each cell, according to its nature, guides and controls its own external and internal relations. Secondly, that when these cells become associate groups there are manifested, not only the status of each individual's vitality, but that a common principle of personality gives a unity to the group, they act in concert, and that this united action is not the result of special inheritance, and a common factor in the personality may be noted by several organic results that accrue in skin grafting. Thus the loss of a local group or groups of associated cells, acting as a subpersonality in the individual organism, may be replaced by the associate grafting of foreign skin from any other animal or man, or from any other part of the same organism. No matter what may have been the original nature of the skin thus transplanted, when it is made part of the new organism, like an emigrant alien in the new community to which it has become attached, it has to forego all the

local rights and responsibilities of its first association, and becomes amenable to and abides under the organic laws of its new condition. Page 17; and again page 97:

The general inference is that the newly acquired tissue accepts and becomes responsive to the forces presented by coördination. Thus the new skin, whatever its source, loses its previous attributes, and takes those present in the coördinate personality.

This book will be a welcome one to the library of the cultured physician not less than to that of the alienist, the embryologist and the biologist.

The Narrative of a Busy Life: An Autobiography. By ARTHUR HILL HASSALL, M.D. (Lond.) M.R.C.P., etc. Pp. 166 and appendix, pp. 82. London: Longmans, Greene, & Co. 1893. Chicago: The W. T. Keener Co. Price, $1.75.

This autobiography is a very entertaining account of the life and services of one of the most scientific investigators of our day, in certain lines of biographic and chemic research.

The author has been a writer, investigator and active worker for a period of sixty years, and he says the time had come to "review the whole of my labors, to take stock of them and so to obtain a clearer insight into their extent and nature. . . . In bringing together the chief events and incidents of my life, as far as scientific work has been concerned, I have in a measure lived that life over again, and in some respects more pleasantly than at first, because the cares and anxieties which attended some of my labors no longer existed and were more or less forgotten, and thus only the more agreeable feelings and results were recalled."

He gives among many interesting incidents, a narrative of his examination at the College of Surgeons:

"At the fourth table Sir Astley Cooper and Mr. Samuel Cooper presided. I had always entertained a feeling of admiration and almost of veneration for Sir Astley, and I was somewhat taken aback when I found his manner discouraging and calculated to upset the equanimity of a nervous man. I remember one of the questions he asked me was: 'What in case of amputation of the foreleg would determine you as to the place, where you would make your first incision?' I replied: 'The position in life of the patient.' 'What! Sir,' he exclaimed in angry tones, 'do you mean to tell me you would operate differently in the case of a poor and a rich man?' I said, 'yes,' not immediately following this with any explanation, as I was somewhat disquieted. Mr. Samuel Cooper then most kindly came to the rescue. 'You mean, perhaps, that you would have regard to the man's means of getting a living afterwards?' 'Yes,' I said, 'that is exactly what I did mean. In the case of a rich man I should have more regard to his appearance and needs, and should so operate as to allow of his wearing an artificial limb, whereas in the case of the poor man I should think more of giving him a sound stump to which a wooden leg might be attached, so that he would be able to trudge about and earn a livelihood.' 'Ah!' said Sir Astley 'that answer will be accepted.'"

The book gives a full account of the author's investigations into the food supplies and water of London under the auspices of the *Lancet*, and in the appendix three learned essays "On the Color of the Leaves of Plants and Their autumnal Changes;" "On the Coloration of the Leaves of Plants;" "On the Climate of San Remo based on the Meteorological Observations of Eleven Consecutive Winter Seasons."

SOCIETY NEWS.

American Public Health Association.

Report of the Committee of the American Public Health Association, "On Sanitary and Medical Service on Board Emigrant Ships."

Presented by Medical Director ALBERT L. GIHON, United States Navy, Chairman, at the session of the Twenty-first Annual Meeting of the Association, held at the Art Institute, Chicago, Ill., Wednesday, Oct. 11, 1893.

Your Committee beg to report the following concise statement of their views as to the organization of such a sanitary and medical service on board vessels engaged in bringing emigrant passengers to the United States, as the experience and intelligence of this age make it a necessity among civilized and enlightened nations.

They are of opinion and advise:

1. As to the location and dimensions of the quarters for emigrant passengers, the number of berths in each, and the provisions for their ventilation and cleansing;

That the preferable location for such quarters is abaft the midship section of the vessel; that single males' quarters shall be distinct from those occupied by women and children, and that if any are forward the midship section it shall be those for single men;

That there shall never be more than two decks (properly there should be only one) occupied by emigrant passengers' berths, with sixteen feet of superficial space for each adult on the upper berth-deck and twenty feet of such space on the lower berth-deck, with not more than two tiers of berths on each deck, the bottom of the lower tier being not less than eighteen inches above the deck, with not less than thirty inches between the two tiers and between the upper tier and the ceiling of the compartment, to allow the occupants of the berths to sit upright;

That no solid partitions or bulkheads shall be placed in any steerage compartment to obstruct light and air;

That the framework of the berths shall be of iron, easily removable, that the compartment may be completely emptied and thoroughly cleaned after each passage;

That a steam ventilating apparatus by aspiration shall be introduced into all emigrant vessels; and

That all compartments occupied by passengers and crew shall be lighted by the incandescent electric light by night and day.

2. As to the location and dimensions of hospitals on board such vessels and the number of sick-berths for which provision should be made;

That the hospitals, or "sick-bays" on board emigrant passenger vessels shall be at the extreme after part of the upper deck, thoroughly lighted and ventilated, with eighteen feet of superficial space for every fifty passengers, and not less than four sick-berths or hospital-cots for every hundred passengers.

3. As to the number of medical officers proper for the maximum of emigrant passengers any vessel should be permitted to carry, being the maximum number able to be berthed with regard to health, cleanliness and comfort;

That there should be one duly qualified medical officer for every two hundred and fifty passengers.

4. As to the professional records which the senior medical officer of every such vessel should be required to keep, and his responsibility to the health authorities of the port of arrival for the truthful and professionally accurate statements of such records;

That the senior medical officer of every such vessel shall be required to keep, 1, a *List of Sick*, recording in a bound book, in the order of their admission, and on a single line, the name, sex, age, birth-place, date of admission to treatment, date of death or discharge from treatment, disease, and such remarks as may be necessary to enable the inspecting medical officer at the port of arrival to have a clear and complete understanding of the case; and 2, a *Medical Journal*, in which each medical officer, when there are more than one, shall record the medical history, including symptoms and treatment of every case, to be approved and signed by the senior medical officer at the close of the day's record; and such List of Sick, and Medical Journal, shall be submitted to the health authorities of the port of arrival, and the accuracy of the statements in such records shall be established by oath, and penalties for perjury shall be provided.

5. As to the location and capacity of latrines for emigrant passengers;

That the latrines, shallow troughs with a continuous flow of salt water, shall be on the upper deck under shelter, with two water-closet seats for every fifty passengers, with a proportionate number for women and children, in a separate locality near their own quarters, and inaccessible to men.

6. As to the number of attendants provided for such passengers, and their duties as to policing and cleansing emigrants' quarters;

That there shall be not less than one berth-deck attendant for every fifty passengers, female attendants in the same proportion being exclusively assigned to the quarters for women and children;

That the berth-decks shall be thoroughly cleansed every morning, by the attendants, never wetted in rainy or damp

weather, when they shall be scraped, swept and freshly sanded, and in pleasant weather washed with hot water and quickly dried, the passengers being sent on deck during the operation;

That the berth-deck attendants shall be on duty night and day in rotation by regular sea-watches, and the attendants on watch be required to remove the dejecta of seasick passengers without delay; and

That benches and mess-tables shall be provided and the passengers' food be distributed by the berth-deck attendants, who shall take away all unused food, and carry the dishes to the pantry.

7. As to additional provisions for the personal health, cleanliness and comfort of emigrant passengers;

That wash-rooms under cover, with basins supplied with running water, shall be provided on the upper deck, those for men to be separate from those intended for women and children;

That fresh water for drinking purposes shall be provided in each compartment; and

That inexpensive mattresses, pillows, these to be serviceable as life-preservers, and blankets shall be provided for emigrant passengers, the mattresses to be destroyed after each passage, and the pillows and blankets to be steamed and washed before being again used.

While other suggestions as to sanitary provisions might appropriately be made, your Committee feel that those indicated are of such urgent necessity that they should be insisted upon and put into effect without delay.

All of which is respectfully submitted:

(Signed) ALBERT L. GIHON,
Medical Director, U.S. Navy, Chairman.
FREDERICK MONTIZAMBERT, M.D., F.R.C.S., D.C.L.,
Supt. Quarantine Station, Grosse Isle, Que.
WALTER WYMAN,
Supervising Surgeon General, U.S. M.H.S.
S. R. OLLIPHANT, M.D.,
President State Board of Health of Louisiana.
WM. T. JENKINS, M.D.,
Health Officer of the Port of New York.

American Electro-Therapeutic Association.

The Third Annual Meeting Held in Chicago, Sept. 12, 13 and 14, 1893.

AUGUSTIN H. GOELET, M.D., President.

(*Continued from page 949*).

The Secretary then read a paper by H. NEWMAN LAWRENCE, M.I.E.E., F. I. Inst., London, Eng., on

ELECTRO-MEDICAL ECCENTRICITIES.

In this paper I use the word, eccentricity, as meaning, "deviation from a center." The center being the object of our Association as set forth in Rule II, viz: "The cultivation and promotion of knowledge in whatever relates to the applications of electricity in medicine and surgery."

It is manifest that all eccentricities, all deviations from the center, are harmful to any cause and are likely to be especially so to such a cause, as ours, surrounded as it is by difficulties and pitfalls in all directions. In venturing to call attention to electro-medical eccentricities, I do so simply as one of a body having the cause of our Association at heart, and not in any sense as attempting to dictate or lay down the law. That honest eccentricities do exist among us and that dishonest eccentricities swarm around us none will deny. Perhaps, therefore, a short consideration of some of them may not be unwelcome, and may possibly tend to free the cause of electro-therapeutics from these hindrances.

The first eccentricity is one which I approach with considerable diffidence, inasmuch as it refers to most of the published works of writers upon medical and surgical electricity, some of which works have attained a world-wide reputation.

I refer to the want of continuity between the chapters on the physics of electricity and those on the medical and surgical uses of electricity. There is too often a strong and distinct line of separation between the two portions of such books. On the one side, we have an abstract of, or a series of extracts from, some elementary work upon electricity; and on the other, statements about cases and their treatment, so constructed that they seem almost to avoid connection with the laws and data laid down in the first part. The result of this is that the student has to face unnecessary difficulties. The most important steps, which show the real relationship between the physics and the therapeutics are wanting, and he is left to grope his way among mysterious technicalities and apparent contradictions till, perchance, his patience is exhausted and he gives up the subject in disgust.

The causes of this eccentricity are not far to seek. Most of the earlier electro-medical specialists had to make the best of electrical knowledge in many ways inferior to that of the present day. From this they extracted as little as possible, probably in the hope of avoiding complications, and thus set up a type or fashion in books upon electro-therapeutics, based upon a sort of homeopathic dose of weak physics. This type others have, almost slavishly, followed.

As time went on and knowledge increased more rapidly on the electrical side than the medical, more advanced physics had to be dragged in, so that the breach between the two portions of the book became wider. Curiously enough this breach became more marked in some cases where the medical writer, in the hope of getting over the difficulty, has called to his aid a non-medical physicist; for though, for the most part, each side of the work was thereby improved, yet the way of looking at things from the electrical standpoint seemed so different from the view taken by the medical side, that the want of continuity was lamentable and at least as prominent as before.

A leading electrical paper in London recently explained its views on the subject as follows:[1] "We have long endeavored to show, in this journal, that a proper study of the physics common to all branches of applied electricity is a sine qua non to medical electricians; and now that the time has at length arrived when the medical profession and their technical organs are beginning to recognize the truth of our contention, it may not be unfitting that authors of books on medical electricity should consider how far the desired end can be obtained by crowding into their text-books a few chapters upon physics, however well they may be written.

"The electrical engineer, whatever branch of applied electricity he intends to adopt, has to first prepare himself by a careful study of complete text-books, often of no mean size, dealing with the physics *which form a common basis to all branches;* and surely it is necessary for the electro-therapeutist to prepare himself in like manner. Medical men, when writing a treatise on forms of treatment by drugs, do not offer their readers instruction upon chemistry by attempting to include it in their books. They write on the understanding that the student has already been through a course of study in the general principles of chemistry, so far, at least, as they are likely to apply to medicine. Why, then, should writers on treatment by electricity add to the difficulties of themselves and their readers by endeavoring to condense the general principles of electrical phenomena into the small space which is all the exigencies of circumstances leave available in the one book? It seems to us that this effort at comprehensiveness involves the saying of either too little or, in another sense, too much.

"We venture to think that the student and the practitioner would be better served by a few short sentences, recommending a preliminary study of one or two standard text-books on electricity and magnetism, with hints as to the need of special attention to points more directly bearing upon the problems and practical difficulties the electro-therapeutist has to face."

Another point is the special terms or words which are so often used in electro-therapeutics, possessing little or no definite meaning and often being entirely misleading. With this form of eccentricity, Mr. J. J. Carty ably dealt in his paper before this Association last year. I will, therefore, not enlarge upon it but content myself with another (short) quotation from the same journal. In reviewing a book it says:[2] "As the terms, galvanic electricity and faradic electricity are used, in the book, we can not close this review without again pointing out how undesirable it is that they should still be adopted in medical works. Most physicists are agreed, and our present author seems of the same opinion, that electricity is one and the same, however generated. The currents obtained may be either continuous, interrupted or alternating, and each of these forms of current possesses certain physiologic properties, whatever the source of generation be. For instance, the continuous current may be obtained from a galvanic battery or from a well-commutated direct current dynamo, and the alternating from a coil, or an alternating current dynamo. In the one case the conti-

[1] Electrical Review, (London) April 14, 1893, page 443.
[2] Electrical Review, London, April 14, page 444.

nuity endows the current with certain physiologic powers; in the other, the alternations endow it with certain other physiologic powers. In neither has the source of generation any physical or physiologic influence. Why, then, speak of galvanic or faradic electricity, per se? Such terms, especially in so complex a subject as medical electricity, act as a stumbling block to the student, and often, in unprincipled hands, become a trap to the unwary."

I will now pass from the books to the practitioner who, from the force of circumstances, is not in a position to personally administer electricity to his patients.

The physician who wishes his patient to be treated electrically, and who has not the special knowledge, the time or the apparatus necessary, is often in a difficulty. Here in England, the difficulty is scarcely met by the very objectionable custom that has sprung up of intrusting electric applications to the hands of hospital nurses and irresponsible individuals of both sexes who, under the cloak of "massage,' are ever ready to do anything and everything the doctor may suggest or the patient sigh for. These people (though acting often from the highest and most conscientious motives, I know,) do enormous harm. Few of them have had any training in medical electricity at all, and most of them possess none of the requisite qualifications. Why medical men should be willing to intrust their patients to such unskilled assistants it is hard to see, but while they continue to do so it is manifest that the standard of qualification will not rise. If doctors want to have electricity applied to their patients *in a proper manner*, so that they (the patients) *may receive to the full whatever advantages may be obtainable from the treatment*, they must employ, as their assistants for the purpose, people who have *undergone due preparation* for the work by a study of anatomy, physiology, electricity and electro-therapeutics.

What is wanted is an established *standard for medical electricians*, so that the busy physician may feel sure that any person having passed that standard is qualified for his work, in the same manner as any person passing the standard of the Pharmaceutical Society is acknowledged a qualified dispenser of drugs. The present state of things is unsatisfactory in the extreme. Can not some steps be taken to alter it?

I now turn to a far more serious set of eccentricities—the various forms of body appliances called electric and magnetic. Most of these wonders are utter frauds, but the nature of the deception they practice is so insidious and is put forward in such a plausible manner that the public believe in them to a large extent. The existence of these body appliances is for the most part totally ignored by the medical profession, but the result of this silent policy can hardly be considered satisfactory. The medical profession loses, the electro-medical science is brought into disrepute and the public are defrauded of enormous sums every year. I venture to think that the time has come when the attitude of medical men and electricians should change somewhat towards these absurd and useless appliances.

I would suggest that authoritative statements be made of the fundamental principles of electric or magnetic generation; and that medical men and electricians, and such of the general public as we can get together to help us, shall openly condemn all appliances which do not act in accordance with those principles.

The question of the genuineness or otherwise, of electric or magnetic appliances is really one for the electrician rather than the medical man. The battle must be fought not on, "can the appliance do any good to the body?" but on, "is the appliance electric or magnetic as may be claimed?" i. e., is it capable of generating electricity or magnetism? It is here that a definite and distinct line may be drawn: *any so-called electric appliance that does not and can not, by reason of its construction, generate electricity at sufficient E. M. F. to pass into the body, is a fraud and should be suppressed by the State.* Any such appliance as does generate electricity and pass it into the body (and there are a *few* such) belongs to another category. It is not fraudulent; it is what it professes to be, i. e., electric. Its therapeutic value is of course quite another matter, and must very likely remain a matter of opinion. There has, hitherto, been too much mixing of the questions of the genuineness of the appliances and the remedial possibilities of the small electric or magnetic action their vendors claim they are capable of. These seem to me to be very separate and distinct questions. The one can be answered by facts and well-known, generally accepted laws; the other can be, at present, only a matter of opinion.

In this Association we have splendid opportunities for moving in this matter, and it is scarcely possible to imagine a subject more urgently needing our attention.

I would, therefore, propose the formation of a special committee of members to consider, report and act. That they should issue a report and appeal to the chief medical and electrical societies or associations of each country (say Great Britain, Germany and France) asking them to coöperate in laying the matter before their respective Governments. In America the appeal would probably go direct from the Electro-Therapeutic Association to the Government, though perhaps it may be thought well that the application be strengthened by the coöperation of the principal medical and electrical societies of the United States.

Perhaps I may be forgiven if I conclude with some extracts from a recent article of mine:[3]

"Electric is a word which to most minds conveys a definite meaning, and indicates that the particular article or instrument to which the word is applied possesses electrical properties; properties, in fact, that differing essentially from all other properties, can only be described by a distinguishing word. Electric, therefore, is understood, and rightly understood, to indicate properties of a distinct and definite order, so that when a machine or appliance is described as electric we expect its main characteristic to be the possession of recognized electrical properties.

"There can be little doubt that this is the general belief, and it follows that if articles are called electric that are not electric, a deception is practiced, while, if they are sold, the seller is guilty of fraud.

"Further, if by calling things electric which are not electric, the price of the goods can be enhanced a hundred-fold, the fraud becomes a very gross one indeed.

"There are, unfortunately, a considerable number of so-called electrical appliances which are electric in name only, being sold to the public and generally advertised so extensively that their sale is very great. We think it high time that such systematic deception of the public should be stopped.

"If a grocer sells a pound of margarin and calls it butter, he is liable to be brought before the nearest magistrate, and fined heavily for his deception. A milkman is similarly liable if he sells as milk that which is not milk. The extent of the deception in each case is probably represented by a few pence. On the other hand, some electrical appliance vendors are selling as electric, things which are not electric, and deceiving the public to the tune of many shillings, and often pounds, on each transaction, and yet they get off scot free.

"Surely what is sauce for the goose ought to be sauce for the gander. If the deception of selling one set of articles under a false name is a fraud, punishable by law, why does not the same law hold good where another set of articles is concerned? It may be that the law does not apply to 'electric' frauds simply because such offenses were not contemplated when the law was made. If this is so the sooner the law be made to include them the better.

"As matters are now, not only are the public defrauded but the beneficent science of electro-therapeutics is brought into disrepute, its advances are checked, its legitimate claims are looked upon with suspicion, while not a few people condemn it entirely because they or their friends have been duped. They fail to differentiate between the substance and the shadow, and cry aloud that because they are deceived by the shadow the substance is not.

"It may be argued that it is not so easy to tell if an article be electric or not, as it is easy to tell if butter be butter or margarin. Perhaps not to the uninitiated, but to the electrical expert it is as easy to prove and demonstrate on electrical goods as it is for the public analyst to declare upon articles of food. We would suggest that a good way to protect the public from the various electrical swindles of this order would be to establish an authority, if none at present exists, which should decide as to the genuineness of appliances which claim to be electric, and then prosecute for fraud any persons afterwards found selling as electric, things which are not genuine.

"Some such protection is a necessity, and we appeal to our contemporaries, medical and electrical, to bring their influence to bear upon the authorities, so that action may be taken to put an end to this scandalous state of things."

DISCUSSION.

Dr. Morton agreed thoroughly with what the author had said about the make-up of electro-therapeutical text-books,

[3] "Electro-Hygiene." August, 1893. Article on "Abuse of the word 'Electric.'"

and the use of such terms as galvanic and faradic; yet in the latter particular we are are constantly dropping back into the use of these terms. He was sure all agreed with the author that the world should be improved, but we should remember that there always will be swindlers and people who are willing to be fooled. On this account, it was not legislation, but general education which would be the most effective remedy.

DR. HERDMAN said that the kind of abuses referred to thrive by opposition, and die by neglect; hence, legislation is of no use. The American people are anxious to be humbugged and are willing to pay for it; hence, medical men should leave the quacks and their methods alone. In his opinion, the man who puts an electric battery in the hands of a nurse or a family is adopting these very methods. He thought there would be just as much wisdom in giving a man a vial of strychnin and telling him to take a little when he felt weak as to give him a faradic battery with the general instructions to use it occasionally.

(To be Continued.)

Will Appeal.—The *News* of Ripley, Tenn., says that Dr. E. E. Kerr of that place was disciplined lately by the Chattanooga Medical Society for attachment to a Keeley cure, and that he will appeal to the AMERICAN MEDICAL ASSOCIATION. The Keeley business will be an interesting question for the Judicial Council to tackle.

Another "Tri-State" Medical Society.—The Tri-State Medical Society, composed of physicians of Western Pennsylvania, Western Maryland and Western Virginia, met at Cumberland, Md., on Thursday, December 21, at 1:30 P.M., in the City Council chamber. One object of the meeting was the perfecting of the organization, which was first effected at a meeting held at Bedford Springs, in July last.

Syracuse, New York, Medical Association.—The Syracuse Medical Association held an important meeting in the Business Men's rooms December 19. Dr. G. M. Price presided, and Dr. S. B. Craton acted as Secretary. At the election which followed Dr. N. P. Warner was chosen President; Dr. T. H. Halsted, Vice-President, and S. B. Craton, Secretary and Treasurer.

Dr. John Van Duyn read a paper on "Rupture of the Left Ventricle," and Dr. H. L. Eisner discussed it. The report of the Committee on Permanent Rooms was made by Dr. T. H. Halsted. The majority of the Committee recommended that the Press Club rooms in the Larned Block be secured at a rental of $250 a year. They also recommended that the annual membership fee be $5. The proposition concerning the rooms not being satisfactory to all, a committee consisting of Drs. W. Jacobson, J. L. Heffron, D. W. Murray, T. H. Halsted and J. Van Duyn were instructed to further consider the matter and report at the next meeting.

Eleventh International Medical Congress.—The undersigned Chairman of the American National Committee of the Eleventh International Medical Congress has received the following communications from the Secretary General:

1. Papers to be read in any of the Sections of the Congress should be announced on or before Jan. 31, 1894, to the Secretary General, Prof. E. Maragliano, Ospedale Pammatone, Geneva, Italy.

2. The title of the paper ought to be accompanied with a brief abstract of its contents and conclusions.

3. The program to be distributed will contain the titles of all the papers announced before August 31, 1893, and since.

4. The reductions granted by the railway companies months ago will be available from March 1 to April 30, 1894.

In the interest of such medical men as will sail for Europe before official cards will have been received from the General Committee, the undersigned proposes to supply in as official a form as he thinks he is justified in doing, credentials which are expected to be of some practical value. It is suggested besides, that a passport may increase the traveler's facilities.

Very respectfully,

A. JACOBI, M.D.

110 W. Thirty-fourth Street, New York.

A letter of the Secretary General's, dated November 29, informs me that "traveling documents" will be sent to the address of every subscriber on or before Feb. 15, 1894; and that after that date Congressists will have to apply to the undersigned.

It also contains the following regulations of former circulars:

Members' dues are five dollars (money order to Prof. L. Pagliani, Rome; guests' (wives and adult relations) two dollars; medical students, no fees. All are entitled to traveling documents.

Reductions on the Italian railways are available from March 1 until April 30.

A. JACOBI, M.D., *Chairman National Committee.*

Medical Society of Berlin.—(President, R. VIRCHOW.) Meeting of Dec. 7, 1893. Herr Th. Weyl, "On the Influence and Value of Hygienic Restrictions for the Health of the City of Berlin." In the first place, he inquired whether canalization had had any remarkable influence on the state of health, death rate, etc., of Berlin. For this purpose he has collected some statistic data, principally the mortality in the years 1871, 1875, 1880, 1885, 1890, when the population was officially counted. Then follows a line of data concerning the mortality in Berlin judged by special causes of death and by the respective ages of those who died. Dr. Weyl has in this manner taken reference to tetanus infantum in the first year, to dysentery, to tuberculosis, to abdominal typhoid of all ages and to carcinoma in women above thirty years of age. For the purpose of canalization the town is divided into twelve parts, each of which is called a radial system. Therefore Dr. Weyl made a comparative inquiry as to how mortality had been altered in a certain radial system in comparison to former times without canalization. It is a pity that statistics but partly serve in observations in this direction, by the method after which they are now taken. By chance, however, the comparison was now already possible for the first and sixth radial systems, using the data of the Mayor's list of deaths and births. By these, the health of Berlin has much improved since canalization was first introduced, as can safely be derived from the data. Dr. Weyl approved some further proposals for improving the health of the city; especially he demanded health officers as in England, and health officers for the schools. Women also should be admitted for these places. Dr. Weyl showed the necessity of these officers by the results of some little private inquiry of his, how far in some houses sewage pits were placed from inhabited rooms. Some houses, however, are not yet in connection with canalization, although it is ordered by the Mayor's decree. Also in regard to the health officers for school question, Dr. Weyl has collected some private statements. He will employ for this office the physicians designed by the city for the medical service of the poor.

Society for the Relief of Widows and Orphans of Medical Men.—Dr. E. Eliot, President of the Society, made the following report at the Meeting of the Board of Managers held in New York, Dec. 20, 1893. Eleven widows and three children of deceased members relieved; $6,610.30 added to the permanent funds, now amounting to $189,157.06; the membership increased by 13, now numbering 143; and all this at an expense of only $180.30—such is the record of last year, and it will compare favorably with that of any preceding one.

In its foundation our Society had for its model that of the same name in London, established in 1788, and such are our record and prospects that the mother need not feel ashamed of the daughter. Of course their capital, $440,286, greatly exceeds ours. They have legacies from 58 persons, three of $25,000 each; one of these, and the last of the three, being that of Sir Erasmus Wilson, the distinguished dermatologist, in 1887. Our benefactors number 55, most of them having contributed $150 each. The name in this list leading all the rest is that of Alonzo Clark, whose gift is estimated at $20,000.

According to the last publication of the London Society, the allowance to a widow is $250 and a Christmas present of $25, making $275 for the year. The largest allowance to their orphans is $60 with a Christmas present of $10, making the annual amount $70. The provision in our by-laws for giving each child $50 as an outfit at the time when the annuity ceases I do not find in their regulations.

Their expenses last year exceeded $1,200. Of this the Secretary had $630. The amount of our expenditure, as above mentioned, is $180.30, our Secretary being allowed "an honorarium" of $50.

Their "Grants and Expenses" exceeded their "Total Receipts Available for Payments" by $366, this amount being their deficit. We added, as previously stated, $6,610.30 to our permanent fund. Happily our by-laws prohibit deficits. Their membership is 312—7 less than the previous year. The number of their widows receiving relief is 58, and the number of children 12. The large number of the former is astonishing. Should our widows ever bear as large a proportion to our membership as is the case with the London Society we should be compelled to reduce the allowance, or gifts to our principal must be large and numerous.

A great difficulty during the past year has been the safe investment of our funds at a fair rate of interest. We have had thousands of dollars for which we received but 2 per cent.

The Secretary of the London Society informed me last summer that it required much effort to keep their members good, and to make additions thereto. Such has been the experience of our Society. For a number of years, our members according to the annual statements, were less and less. I believe that for several years not more than one or two persons have voluntarily sought membership. Those who have joined us have done so through personal solicitation. The energetic President of the New York Physicians Mutual Aid Association, happily one of our Board of Managers, recently informed us that not more than six out of a hundred applied for membership in that Society without personal urging. Printed documents and annual statements do not bring members. Physicians should make provision for themselves and any family they may leave. No one in our profession in our city need die in straightened circumstances. By the payment of from $15 to $20 in the Physicians Mutual Aid Association his representatives, in the event of his death, can immediately command $1,000. After a suitable probation, and not a large payment in our Society, he can provide generous relief for a widow and orphans, should they be in need of it. The medical profession in no city in the world, so far as I can learn, are as fortunate in this respect as are the physicians in generous New York.

Our Board of Managers is much the same as last year. Two faithful ones, Drs. Laurence Johnson and Wm. T. White, whom death has removed, we shall greatly miss. Happy will it be for the Society if their successors prove equally attentive to their duties.

The Association of American Medical Colleges.—Notice of proposed amendment to Sec. V, Art. 3 of the Constitution.—At a meeting of the Faculty of Rush Medical College, held Dec. 7. 1893, the Faculty by unanimous vote passed the following resolution, to-wit: *Resolved*, that Sec. V, Art. 3, of the Constitution of the Association of American Medical Colleges be amended to read as follows: "From students who intend to graduate in 1899 or in subsequent classes, four years of medical study and attendance upon four annual courses of lectures of not less than six months duration each, will be required. Provided, that graduates of literary colleges who have taken a course of four years, including study in the natural sciences and graduates from universities and colleges that furnish a suitable course of scientific studies, graduates of schools of Pharmacy that require three years of study and adequate preliminary education, and graduates of Dental colleges requiring two years of study and adequate preliminary education, may be admitted to the second year's work or course of lectures in the college without examination."

The present wording of Section V, Article III, is as follows: "Candidates for the Degree of Doctor of Medicine shall have attended three courses of graded instruction of not less than six months each, in three separate years."

It will be observed that the adoption of the proposed amendment will require of all matriculates of the session of 1895, attendance upon four full courses of instruction before receiving the degree of M. D.

Recognizing that the proposed amendment, if adopted, would necessitate the formulation of a general curriculum of study for the various branches of the courses, and perchance, other necessary changes or additions to the by-laws, the President, Dr. N. S. Davis, has appointed the following named persons to act as a special committee to prepare a new schedule of minimum of requirements, and to submit the same at the fifth annual meeting, to be held at San Francisco, at 3 P. M., Wednesday, June 6, 1894:

COMMITTEE.

E. L. Holmes, Chairman of the Committee—President Rush Medical College, Chicago, Ill.

Reginald H. Fitz,—Harvard Medical College, Boston, Mass.

Victor C. Vaughn,—Dean Dept. of Medicine, University of Michigan, Ann Arbor, Mich.

Wm. Osler,—Johns Hopkins Medical College, Baltimore, Md.

Wm. E. Quine,—President College of Physicians and Surgeons, and President Illinois State Board of Health, Chicago, Ill.

P. S. Connor,—Ohio Medical College, Cincinnati, Ohio.

Dudley S. Reynolds,—Hospital College of Medicine, Louisville, Ky.

N. S. Davis, Jr.,—Chicago Medical College, Chicago.

Perry H. Millard,—Dean College of Medicine and Surgery, University of Minnesota, Secretary Association of American Medical Colleges, St. Paul, Minn.

The Committee will hold a meeting in Chicago at the Grand Pacific Hotel, at 3 P. M., Wednesday, Feb. 7, 1894. Colleges, members of the Association, are requested to aid the Committee in their work by advice or representation. It is particularly desirable that Colleges, members of the Association, be represented by a formally appointed delegate at the forthcoming session. The proposed amendment, if adopted, marks a most important era in the history of medical education in this country. Colleges unable to be represented by a regularly appointed delegate, will confer a favor by informing the Secretary of their attitude on this amendment, that the same may be submitted or made known to the convention before the final action is determined. Colleges electing delegates are requested to indicate in their credentials if they have full power to act, and to furnish the Secretary the names of the delegates elected as soon as practicable. Colleges are entitled to one delegate each. A proxy can not be delegated to a person not directly connected with the College desiring representation.

In the consideration of this question it is proper that I refer you to the recent action of the AMERICAN MEDICAL ASSOCIATION and of the Iowa State Board of Health, regarding the enforcement of the four years' course by the Colleges wishing their Alumni to receive recognition subsequent to 1895.

There are at present seventy-one Colleges members of this Association.

Article VI, of the Constitution, reads as follows: "This Constitution shall not be altered or amended except by a written notice to all the members at least thirty days previous to a stated meeting, and by a vote of two-thirds of all the delegates present at such meeting."

Very respectfully submitted,

PERRY H. MILLARD,
Secy. Ass'n American Medical Colleges.
St. Paul, Minn.

PUBLIC HEALTH.

The Chicago Medical Society and the Public Health Bill proposed by the New York Academy of Medicine.—At the last meeting of the Chicago Medical Society the committee appointed to consider the request of the New York Academy of Medicine for an indorsement of their proposed bill reported as follows:

To the President and Members of the Chicago Medical Society:

—"Your Committee to whom was referred the Public Health bill proposed by the New York Academy of Medicine hereby respectfully report that they have carefully examined the bill, and the arguments adduced in its favor. They submit herewith an analysis of the provisions of the bill from which it will be seen that the bill falls very far short of the recommendation of the AMERICAN MEDICAL ASSOCIATION, the American Public Health Association, the Mississippi Valley Medical Association, and the Illinois State Medical Society

"The New York Academy of Medicine has apparently forgotten the fact that the AMERICAN MEDICAL ASSOCIATION already has a committee appointed to secure public health legislation of a much broader character, more consonant with the dignity of our profession, and more in harmony with the needs of the people.

"The Academy of Medicine of the City of New York representing itself, recommends a conglomerate *Bureau;* the great national organizations composed of authorized representatives from all the States, recommend a *Department.*

"We do not think the medical profession should be satisfied with any less, and we do not think the country will be materially benefited, by organizing States into separate districts, or that a board has any particular advantage over a department. On the contrary, we are of the opinion that a properly organized Department of Public Health would have immense advantages over the proposed Bureau which may make rules, and must trust others to execute, which places State Boards of Health in an equivocal position in relation to the proposed District Commissioners. Your Committee invite attention to the wise words of President Cleveland in his last message to Congress as follows:

"'The admonitions of the last two years touching our public health and the demonstrated danger of the introduction of contagious diseases from foreign ports have invested the subject of national quarantine with increased interest. A more general and harmonious system than now exists, acting promptly and directly everywhere, and constantly operating by preventive means to shield our country from the invasion of disease, and at the same time having due regard to the rights and duties of local agencies, would, I believe, add greatly to the safety of our people.'

"It is believed that the bill of the AMERICAN MEDICAL ASSOCIATION meets in all essential particulars the views of the President as thus expressed. Your Committee feel that the bill of the Academy if passed should be amended to provide definite qualifications for the Commissioners, as preliminary to appointment, and that the Secretary of the Board should be a medical man, and that the compensation should be adequate for the services rendered.

"They are further of opinion that the provision that continues the quarantine under one officer of the Government, while the regulations governing the same are framed by the Commission, will lead to confusion, inefficiency and irresponsibility; if the Bureau of Public Health is to frame the regulations, that Bureau should have the responsibility of executing them.

"Finally, your Committee point out that the courts, the Inter-State Commerce Commission, the Solicitor General, the Tariff Commission, the Civil Service Commission, the Superintendent of the Geological Survey, and the Superintendent of the Coast Survey now have by law ample remuneration for their services, while the medical men appointed under the proposed Act are expected to serve for a mere pittance.

"But the criticisms on this bill might be almost indefinitely extended. Your Committee, therefore, respectfully recommend that the Society affirm its adhesion to the request of the AMERICAN MEDICAL ASSOCIATION for a Department of Public Health, and that a committee be appointed to coöperate with the committee of the said Association, engaged in the furtherance of said legislation.

"We further recommend that our Secretary be instructed to notify our distinguished confrères of the New York Academy of Medicine, that this Society prefers the bill to establish a Department of Public Health to the one proposed by them."

ANALYSIS OF PUBLIC HEALTH BILL PROPOSED BY NEW YORK ACADEMY OF MEDICINE.—A BUREAU OF PUBLIC HEALTH.

The Bureau. Two Commissioners-at-Large; nine District Commissioners; four Ex-Officio Commissioners.

Officers elected by Bureau. President and Vice-President, to be elected from Commissioners-at Large (outside Secretary).

Compensation. President, $15 per day; all other Commissioners, $10 per day; Secretary, $3,000 per year.

Executive Committee. The President and the four Ex-Officio Commissioners.

Duties of the Bureau. Make rules for duties of Executive Committee; make rules for guidance of Bureau and employes, establish rules for government of National sanitation, foreign and Inter State special departments; may call conference with State Boards.

Sections 5, 6, and 7. Collect and diffuse information; advise the Departments of Government, Executives of the several States, all Health Authorities when called for, or when the Bureau thinks best, to secure sanitary condition of vessels from foreign ports; to prevent the introduction of contagious and infectious diseases and their spread, and to be the Government medium for National sanitary action; may make investigations abroad, and the President of the United States may, on request, detail officers from the several Departments of the Government.

Sec. 8. Shall report facts to Secretary of Treasury.

Sec. 9 and 10. Shall obtain information of sanitary condition of foreign countries from Consuls and from domestic sanitary authorities, and transmit same to various public and State officers.

Sec. 11 (dup. of Sec. 6). Shall furnish information and advice to States and Government Departments when requested.

Sec. 12. Shall coöperate with State authorities and secure uniform system of notification.

Sec. 13. Shall make rules for vessels engaged in foreign trade.

Sec. 14. Shall issue rules and regulations to Consuls.

Sec. 18 and 19. Shall have authority to forbid entry of vessels under certain specified conditions, and may order vessels to quarantine; may send to National or State quarantine in case of epidemic.

Sec. 20. May exercise Inter-State quarantine authority.

Sec. 21 and 22. Provides for purchase of State quarantines.

Sec. 25. Shall make an annual report, and its correspondents may have franking privilege one million appropriations.

District Commissioners, Sec. 8. Examine into health measures employed in respective districts, and report same to Bureau, and thereafter make annual report of sanitary affairs of his district.

Surgeon General of the Army. Execute all orders, rules and regulations relating to sanitation in his branch of the Public Service.

Surgeon General of the Navy. Same as above.

Surgeon General Marine Hospital Service. Perform all duties in respect to quarantine and quarantine regulations provided by this Act.

ACTION OF MILWAUKEE MEDICAL SOCIETY.

The Milwaukee Medical Society also report against the bill as follows: 1, It is generally acceded by physicians and sanitarians who have given the matter careful thought, and are not prejudiced, including members of the New York Academy of Medicine, that the bill to provide for a Secretary of Public Health in the Cabinet of the President, which was prepared by the AMERICAN MEDICAL ASSOCIATION, is the only ideal scheme thus far presented to settle the sanitary problem, so far as National legislation is concerned.

2. All other bills are makeshifts, and makeshift legislation is pernicious legislation, as is abundantly shown in the history of our own conntry.

3. The bill proposed by the New York Academy of Medicine is not claimed by its advocates to be the best solution of the problem, and is cumbersome, expensive and impracticable.

4. Any legislation asked for or favored by the medical profession which is not designed for the highest good, conceived in the light of the most advanced scientific knowledge, is derogatory to the best interests of the medical profession, and as a result detrimental to the best interests of the people and country.

5. No lesser office than one on a parity with the members of the President's Cabinet is consistent with the dignity of maintaining sanitary relations with other nations, with the rank of the medical profession, and with the importance of best protecting life and preserving health and happiness in our own nation.

6. That if this object can not be obtained at present it is unwisdom to favor legislation which by reason of its imperfection will belittle the medical profession, retard the progress of sanitation and medical science, and reflect discredit upon all who espouse it.

ASSOCIATION NEWS.

The San Francisco Meeting of the American Medical Association.—Our California friends are "hustling," and have been since the Milwaukee meeting. They are stirring up the entire profession west of the Rockies by all possible means. They are instructing them respecting the ASSOCIATION and seeking to secure their coöperation with it.

The *Occidental Medical Times* of Sacramento publishes each month the majority and minority reports of the Committee on Revision of the Constitution and By-laws and Code of Ethics, as made at Milwaukee. This will enable all its readers (and they are the brightest in the great West) to understand some of the great questions which must come before that meeting.

Every indication points to a larger meeting of the medical profession than has ever met in this country before. Preparations are being made for the profit, comfort and pleasure of all visiting members east of the Rockies. Those who can, and do not provide for this meeting will make a mistake.

Section activity has already begun by the most "live" work among the officers of the Sections. Others will soon wake up, and hundreds will be laboring to prepare some work of value to present at one or more of the Sections of our NATIONAL MEDICAL ASSOCIATION.—*Cleveland Medical Gazette.*

MISCELLANY.

Dr. M. J. Stern has been elected a Professor of Surgery at the Polyclinic Hospital of Philadelphia. Dr. Stern is a graduate of Jefferson College.

Hospital for Contagious Diseases.—Cambridge, Mass., is to have a hospital for contagious diseases, the Board of Aldermen having voted $5,000 for that purpose December 19.

A Bust of Professor N. S. Davis.—An excellent bust of Professor N. S. Davis, by Mr. Starr, has been placed in the Art Institute of Chicago, where it is much admired.

The Late Sir Andrew Clark.—Under the will of Dr. Clark, the London Hospital will receive $2,500 for a memorial scholarship. The estate, inventoried at over a million dollars, is left almost wholly to the family of the deceased.

Health Commissioner.—Dr. Zachary Taylor Emery has been appointed Health Commissioner of Brooklyn, N. Y. He is an ex-President of Kings County Medical Society, and is young and energetic.

The Husband Must Pay.—Where there is a statute making the husband, who has means, liable for his wife's support, the Supreme Court of California holds, in the matter of Weringer's estate, decided Nov. 25, 1893, that her estate can not be charged for medical services, medicines and nursing that he secured for her in her last illness, which makes him alone liable therefor.

To Enforce the Medical Practice Act.—The New York police were recently directed to take a caucus of all persons engaged in the practice of medicine in the city. Each individual patrolman was instructed to copy the names and addresses from all the doctors' signs. It took only two hours to do the work. The Medical Society will now have the data to catch the bogus practitioners. There are supposed to be about four thousand legally qualified physicians in New York city.

Dr. A. Martin of Berlin, well known in America by his papers read at the Ninth International Medical Congress, held at Washington, has received the title of Professor. His father had already chosen this branch of medicine, and was Professor in Jena and Berlin. Dr. E. A. Martin was born in Jena in the year 1847. Dissertation in 1870 on gynecology; Docent in the University in 1876. He has published studies in operative gynecology, on alcohol treatment vs. septic peritonitis, a manual of obstetrics and gynecology, on drainage in laparotomies, on partial excision of ovaries and tubes, on repeated laparotomy, etc.

Dr. Gibbs Will Not Pay His Fine.—Dr. Gibbs, of Omaha, has concluded that he will not pay the fine of $25 which Judge Scott assessed in the contempt case in which the Doctor was a witness in the case of the State against Frederick Mengedoht.

The Doctor December 20 filed in the office of the clerk of the district court a motion to set aside the judgment, alleging that in finding him guilty the court erred. He further avers that he never had a trial, and that he was not given an opportunity of making a defense, and that he was never served with an information in the contempt case.

"Sanitary Day" to fall in May.—It is proposed by Sir B. W. Richardson that one holiday every year be declared in the month of May. It shall be devoted to the planting of shade-trees and to discourses on the benefits of out-door life and a pure water supply. It shall be called "Sanitary Day." All nations in the northern hemispheres will be invited to observe the same day; a day in November shall be observed at the Antipodes, for the same purposes. Of course, the medical profession will be in the forefront of the movement, preaching the superiority of an ounce of prevention over a pound of apothecary stuff.

Dr. Hammond Explains His Relations to the Columbia Chemical Company.—Dr. W. A. Hammond, in a letter to the *Washington Post*, explains his relation to the Columbia Chemical Company as follows:

"I was the President and a large stockholder in the Columbia Chemical Company, and I remained so as long as I pleased. But, having demonstrated my right as a physician and an American citizen to hold any kind of property that the code of ethics and the law of the land permit, I have accepted a very advantageous and long pending offer for my stock, and am, therefore no longer connected therewith, except in the capacity of consulting chemist, a post somewhat analogous to the one held in the Apollinaris Water Company by that king of medico-ethical propriety, Mr. Ernest Hart."

It will be remembered that Gen. Hammond was acquitted by the Medical Association of the District of Columbia of the charges preferred against him.

Decay of Books.—M. Delisle, the principal librarian at the Bibliotheque Nationale in Paris, warns us that our modern literature is destined to perish. Of the 2,000 and odd volumes published annually in France, not one, he thinks, will remain after a certain time. Cheap paper is a splendid thing in its way, but this is the price we must pay for it. Old-fashioned paper made from rags has stood the test of hundreds of years, as the many fine specimens of fifteenth-century printing show, to say nothing of still earlier books in manuscript. Nowadays, however, paper is made of all sorts of material of a more or less perishable character. In particular, as M. Delisle points out, books printed on paper made from wood pulp soon begin to rot away. At first the pages are covered by yellow spots, and these are replaced in course of time by holes. Even so-called hand-made papers are often no more durable, being treated with chemicals that slowly destroy them.—*London Daily News.*

Disinfectant Action of Saprol.—Saprol is produced as an oily brown liquid with an odor of carbolic acid. Specific gravity .099. Analysis (Spindler) saprol contains .43 per cent. of phenol, 53.9 of cresol, 2.8 of hydrocarbons, pyridin and other

bases. Gross affirms that saprol constitutes an admirable disinfectant, devoid of the inconveniences presented by other disinfectants. Saprol is distributed in a uniform manner on all fecal matter which it covers with an impermeable film; the phenol and cresol which it contains penetrate little by little in the subjacent liquids. To save 32.8 to 34.4 per cent. of all saprol; in the case of neutral liquids 37.6 to 39.2. When the liquid possesses an alkalin reaction all the constituent parts exercise their disinfectant action. In the absence of an epidemic 1 per cent. of saprol will suffice to disinfect all fecal matter. The yearly cost will in that case be 45 centimes per man. In the suppression of epidemics, it is necessary to use 1 to 100 per cent. of saprol. The yearly cost will be 4 francs 50 centimes in addition per man.

The fecal masses disinfected by saprol are perhaps utilized with the same ease as other salts. Lastly, its mode of employment is simple. It is only essential to stir the masses with saprol in the proper quantity.—*Vratch*, 1893, No. 30, page 836.

On the Etiology of Primary Carcinoma of the Gall Bladder.—F. Siegert describes seven cases of primary carcinoma of the gall bladder. In all he found biliary calculi. Many facts show that these calculi had been produced before the tumor, and that their presence had irritated the bladder.

The author was inclined to this opinion, having found that the parts of the bladder that were not attacked by the carcinoma presented many signs of irritation.

In comparing facts relative to the primitive carcinoma and secondary carcinoma of the gall bladder, he arrived at the following conclusions:

1, That biliary calculi always coëxisted with primary carcinoma of this organ, and exceptionally with secondary carcinoma; 2, biliary calculi are one of the causes of carcinoma of the gall bladder, but are never found as a consequence of carcinoma.—*Revue des Sciences Médicales.*

Convalescent Homes in Berlin.—The city is going to make another disposition of the public Convalescent Homes, which had existed before, but were not much used by the convalescent, owing to the difficulty of reception. Till now the procedure was as follows: The Committee of the Home was firstly to give his leave. For this purpose, the physician in charge was obliged to give a letter after certain prescripts, in which were contained notes on the former disease and the necessity of the country sojourn, and over alimentary and medical specialties concerning the man's question. When the call of the convalescent and the recommending letter of his physician had passed examination, the Committee resolved whether he should be readmitted to the Home! No wonder that the sick as well as their physicians wearied of these diplomatic proceedings, and that the Home remained without inhabitants. Now the Homes (situated in the country near Berlin), shall be connected to the hospitals, so that the medical staff of the hospital can send patients to the Home without formally asking the will of the Committee. This measure will but partly do. As the inhabitants of the Homes not only come from the infirmaries, but also are visited by their physicians in their lodgings, or had frequented some out-patient room, care should be taken that the profits of the country sojourn may be reaped also by these patients. Therefore it is planned to create the place of a physician especially for the service of the Convalescent Homes, whose office in the City Hall is open from 1 to 4 P.M. The respective Committees of the Homes give him regular reports as to number of inhabitants and free places in the single Home. On the other hand, the public hospitals should daily give him information whether candidates for the Home are leaving the hospital. What private patients claim reception in a Home, should also direct themselves to this office. Often their former physician will reform this to health officer and give notes for the further treatment. This officer soon would be the center for the convalescent service of the town. He soon would learn which classes of recovering people are able to be sent to a country home, which should not, and his advice would be useful also for the practitioners in charge of the sick. He would also dispose of the places in the Homes. This officer should give his advice to the people and to his colleagues as much as possible directly, and should be easily accessible to all callers and decide off-hand in each case.

THE PUBLIC SERVICES.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from December 16, 1893, to December 22, 1893.

Capt. W. B. BANISTER, Asst. Surgon U. S. A., is granted leave of absence for one month, to take effect about the 20th inst.

Major DANIEL G. CALDWELL, Surgeon U. S. A., is hereby granted leave of absence for one month, to commence about Dec. 22, 1893.

First Lieut. MADISON M. BREWER, Asst. Surgeon, having relinquished the unexpired portion of his sick leave of absence, will report in person to the commanding officer, Ft. Monroe, Va., for temporary duty at that post.

First Lieut. JOHN S. KULP, Asst. Surgeon, now on temporary duty at Jackson Park, Chicago, Ill., is relieved from further duty at Columbus Bks., Ohio, and when his services are no longer needed with the troops at Jackson Park, will report in person to the commanding officer, Ft. Sheridan, Ill., for duty at that post.

Marine Hospital Changes. Official list of changes of stations and duties of medical officers of the U. S. Marine Hospital Service, for the four weeks ended December 16, 1893.

Surgeon P. H. BAILHACHE, granted leave of absence for five days, Nov. 28, 1893. To inspect quarantine ports, Dec. 7, 1893.

Surgeon GEORGE PURVIANCE, to inspect quarantine ports, Dec. 7, 1893.

Surgeon H. W. SAWTELLE, to inspect quarantine ports, Dec. 7, 1893. Granted leave of absence for three days, Dec. 4, 1893.

Surgeon H. W. AUSTIN, detailed as chairman of Board to amend and revise the quarantine regulations, Dec. 9, 1893.

Surgeon J. M. GASSAWAY, to proceed to Mobile, Ala., as inspector, Nov. 22, 1993. To inspect quarantine ports, Dec. 7, 1893.

Surgeon F. W. MEAD, detailed as chairman of Board to examine candidates, Revenue Marine Service, Dec. 9, 1893.

Surgeon H. R. CARTER, to proceed to Brunswick, Ga., for temporary duty, Nov. 24, 1893. To inspect quarantine ports, Dec. 7, 1893. Detailed as member of Board to revise and amend the quarantine regulations, Dec. 9, 1893.

Surgeon W. A. WHEELER, detailed as member of Board to revise and amend quarantine regulations, Dec. 9, 1893.

P. A. Surgeon C. E. BANKS, granted leave of absence for seven days, Nov. 22, 1893.

P. A. Surgeon D. A. CARMICHAEL, to inspect quarantine ports, Dec. 7, 1893.

P. A. Surgeon J. H. WHITE, to proceed to Savannah, Ga., for duty, Dec. 4, 1893. Detailed as member of Board to revise and amend quarantine regulations, Dec. 9, 1893.

P. A. Surgeon P. M. CARRINGTON, to proceed to Baltimore, Md., for duty, Dec. 9, 1893.

P. A. Surgeon L. L. WILLIAMS, to proceed to Charleston, S. C., for duty, Dec. 4, 1893.

P. A. Surgeon W. J. PETTUS, granted leave of absence for eleven days. To proceed to Buffalo, N. Y., for duty, Dec. 4, 1893.

P. A. Surgeon J. J. KINYOUN, to rejoin station, Washington, D. C., Nov. 24, 1893. Granted leave of absence for three days, Dec. 4, 1893. Detailed as recorder of Board to revise and amend quarantine regulations, Dec. 9, 1893.

P. A. Surgeon R. M. WOODWARD, granted leave of absence for seven days. To proceed to Cairo, Ill., for duty, Dec. 4, 1893.

P. A. Surgeon G. T. VAUGHAN, detailed as recorder of Board for physical examination of candidates, Revenue Marine Service, Dec. 9, 1893.

P. A. Surgeon J. O. COBB, to inspect quarantine ports, Dec. 7, 1893.

P. A. Surgeon G. M. GUITERAS, to report at Bureau for temporary duty, Dec. 6, 1893.

P. A. Surgeon H. D. GEDDINGS, to proceed to New York, N. Y., for duty, Dec. 2, 1893.

Asst. Surgeon G. B. YOUNG, to proceed to New York, N. Y., for duty, Dec. 4, 1893.

Asst. Surgeon W. G. STIMPSON, to proceed to Detroit, Mich., Dec. 4, 1893.

Asst. Surgeon B. W. BROWN, granted leave of absence for seven days. To proceed to Washington, D. C., Dec. 4, 1893.

Asst. Surgeon E. R. HAUGHTON, to proceed to Vineyard Haven, Mass., for duty, Dec. 4, 1893.

Asst. Surgeon J. A. NYDEGGER, granted leave of absence for seven days. To rejoin station, Pittsburg, Pa., Dec. 7, 1893.

Asst. Surgeon W. J. STEWART, granted leave of absence for fourteen days, Nov. 27, 1893.

Asst. Surgeon EDGAR STRAYER, granted leave of absence for seven days, Nov. 27, 1893.

Asst. Surgeon J. H. OAKLEY, to proceed to Halifax, Nova Scotia, for temporary duty, Nov. 24, 1893. To proceed to New York, N. Y., for temporary duty, Dec. 14, 1893. To proceed to San Francisco, Cal., for duty, Dec. 16, 1893.

LETTERS RECEIVED.

(A) Allen, Ulamor, Jersey City, N. J.

(B) Berliner, Paul, Berlin, Germany; Baxter, E. K., Boston, Mass.; Borin, W. A., Red Ash, Ky.; Blodgett, F. J., New York, N. Y.; Buckmaster, S. B., Chicago, Ill.; Barnes, Ira N., Decatur, Ill.; Brown, M. R., Chicago, Ill.; Boissiere, G. A., New Orleans, La.

(C) Clarke, A. P., Cambridge, Mass.; Curtis, H. H., New York, N. Y.

(D) Dietrich, W. A., Chattanooga, Tenn.; De Vilbiss, A., Toledo, Ohio.; Dougan, W. McKay, Otoe, Oklahoma.

(E) Eustis, W. C., Owatonna, Minn.; Elwood, H. R., Milwaukee, Wis.

(G) Gafney, T. H., Chicago, Ill.

(H) Harsha, W. M., Chicago, Ill.; Hameton, B. F., Emlenton, Pa.; Hale, G. V., Wheatland, Texas; Hemenway, Stacy, Eugene, Ore; Hammond, W. A., Washington, D. C.; Huizinga, J. G., Holland, Mich.

(J) Johnson, W. L., Johnstown, N. Y.; Johnson, H. P., La Crosse, Wis.

(K) Kegan Paul, French, Trübner & Co., London, England; Kemper, G. W. H., Muncie, Ind.

(L) Loeb, H. W., St. Louis, Mo.; Leighton, W. H., National Home, Wis.

(M) Martin, F. H., Chicago, Ill.; Millard, Perry H., St. Paul, Minn.; Mackham, H. E., Independence, Iowa; Mason, C. H., Chatham, N. Y., Mathers, Edgar R., Cincinnati, Ohio; McBride, M. A., West Point, Texas.

(O) Oliver, J. C., Cincinnati, Ohio.

(P) Peters, W. H., La Fayette, Ind.

(R) Rauch, J. R., Lebanon, Pa.; Reynolds, Geo. W., Chicago, Ill.; Richardson, F. W., St. Paul, Minn.; Robinson, F. B., Chicago.

(S) Solis-Cohen J., Philadelphia, Pa.; Stockton, C. G., Buffalo, N. Y.; Swasey, Edward, Worcester, Mass.; Smith, J. L., New York, N. Y.; Solis-Cohen, S., Philadelphia, Pa.

(W) Wingate, U. O. B., Milwaukee, Wis.; Wiltrout, I. D., Hudson, Wis.; West, W. F., Dodd, Texas.; Webb, J. A., East Meredith, N. Y.